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ABSTRACT

This report encompasses the evaluation of vocational-technical education in four New Mexico post-secondary vocational-technical education schools. The first section provides an overview of the state and national settings within which these educational programs operate. A second section reports on the four schools individually, giving a collective state-wide presentation of post-secondary vocational-technical education. A series of six recommendations concerning future state-wide, post-secondary school operations include: (1) continued operations of the four institutions studied. (2) increased efforts in student enrollment, (3) improvements and extension of supporting services, (4) increased financial supporting services, (5) considered redevelopment of the state-wide vocational-technical education system, and (6) continued evaluation. A companion volume to be published in April 1970 will evaluate vocational-technical education at the secondary school level. (CH)

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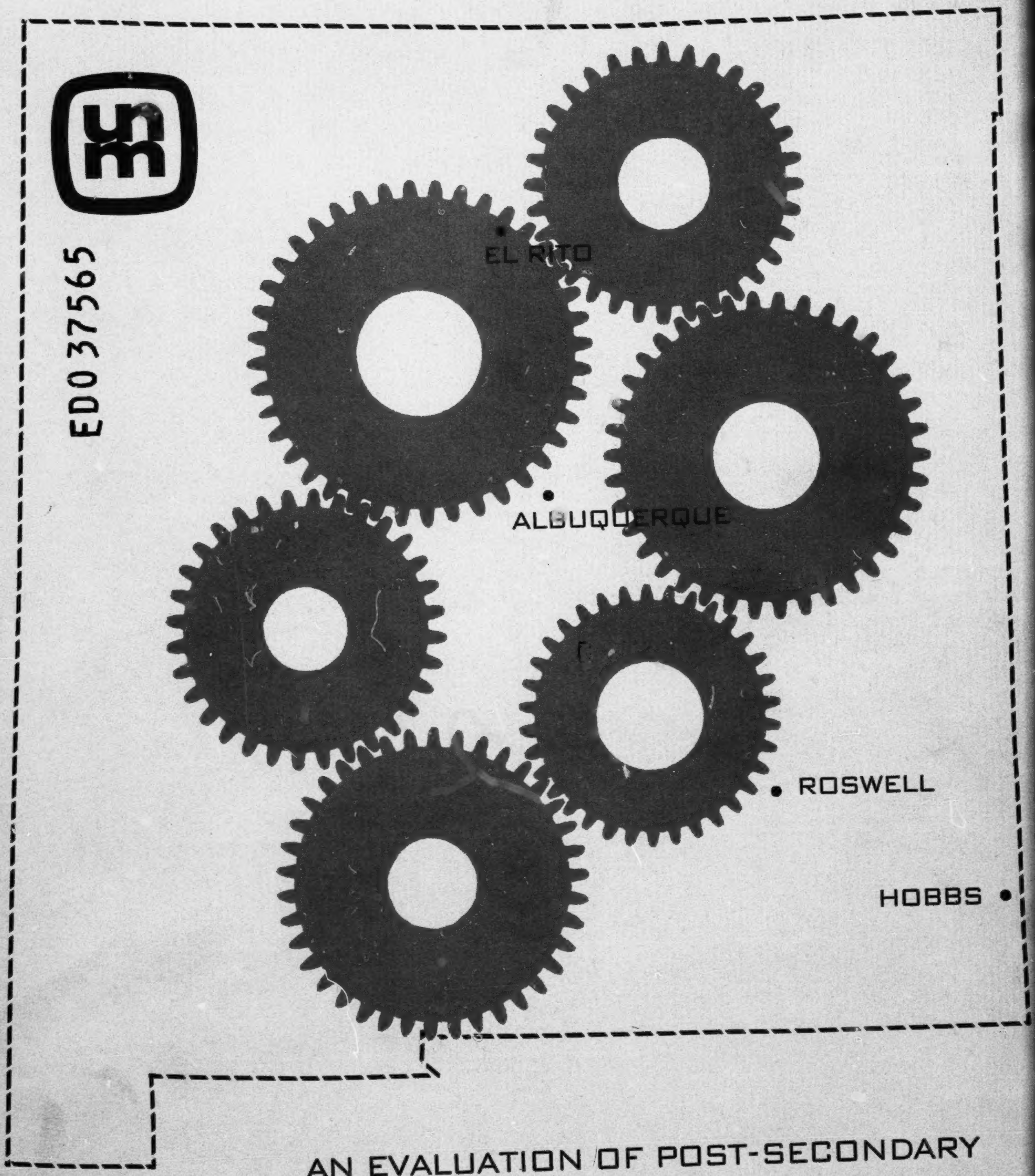
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ROSWELL
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# AN EVALUATION OF POST-SECONDARY VOCATIONAL-TECHNICAL EDUCATION IN NEW MEXICO

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# AN EVALUATION OF POST-SECONDARY VOCATIONAL-TECHNICAL EDUCATION IN NEW MEXICO

BUREAU OF EDUCATIONAL PLANNING AND DEVELOPMENT
University of New Mexico December, 1969
Director: Richard F. Tonigan (505) 277-2622

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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> ...........education has contributed substantially to growth, accounting for as much as one fifth of the growth in income experienced by the State between 1949 and 1964........*

*New Mexico Business*, Bureau of Business Research, University of New Mexico, Vol. XXII, (February, 1969).

# CREDITS

Our sincere thanks go to the following persons who served so capably as evaluators. Many agreed to serve with little notice and willingly shared their time to provide us with the best talent available in New Mexico for performing this evaluation. A special vote of thanks goes to Dr. Bill Runge who so ably developed the evaluation instruments and coordinated the myriad details necessary to the successful performance of our mission.

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Mr. Hugh B. Mahl - Project Coordinator
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# CHAPTER I

# INTRODUCTION

## SCOPE AND NATURE OF THE STUDY

In October, 1969 the State Advisory Council for Vocational Education (See Appendix "A") contracted with the Bureau of Educational Planning and Development (See back cover) to have two vocational-technical education evaluation studies completed. This report encompasses the evaluation of vocational-technical education in four[1] of New Mexico's five[2] post-secondary vocational-technical education schools. The second evaluation report will cover vocational-technical education at the secondary school level; it will be completed in April, 1970.

In essence, the contract requires the Bureau of Educational Planning and Development to design the evaluation procedures and documents, to conduct the two evaluations and to present the evaluation data in two reports. The development of this post-secondary report has been completed on schedule and within contract funds; it is expected that the secondary study will be similarly accomplished.

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[1] The Albuquerque Technical-Vocational Institute (TVI), The New Mexico Junior College (Hobbs), The Northern New Mexico State School (El Rito), and The Roswell Branch of Eastern New Mexico University (Roswell).

[2] Farmington is not included in the study because it has been operational less than a year.

## USING THIS REPORT

The evaluation report serves several useful purposes. In addition to providing state education personnel and state legislators with a current view of New Mexico's post-secondary vocational-technical educational program, the document will be valuable to those regional and Federal agencies able to financially support New Mexico's post-secondary vocational-technical education movement. Post-secondary school instructors, administrators, board members and citizen advisory council members have the opportunity, through this report and their campus self-evaluations, to relate the component parts of their vocational programs to those of the other state supported post-secondary schools, and to use this evaluation as a guide to continued improvement.

## THE EVALUATION PROCESS

In October a self-evaluation instrument, "Assessment and Evaluation Study of Area Vocational-Technical Schools in New Mexico", was prepared by the Bureau and reviewed with representatives of the four schools, The State Advisory Council for Vocational Education, The State Education Department and the UNM College of Education.

In November, while the four schools, using faculty members, administrators, students and citizens proceeded to conduct self-surveys in accordance with instructions contained in the self-evaluation instrument, the staff of the Bureau of Educational Planning and Development began to analyze related data contained in the reports of the Four Corners Regional Commission, the UNM Bureau of Business Research, the Department of Public Finance, The Board of Educational Finance, the State Department of Education, the U. S. Office of Education and other pertinent organizations. During the last of November, teams of evaluators visited each of the four campuses to confirm the accurateness of the self-evaluations and to assess several general factors not included in the self-evaluations. Finally, during the first half of December this report was written and assembled.

It should be publicly noted that all institutional, State Department, Advisory Council members, consultants and other study participants were very helpful to the Bureau in conducting this study, but that the Bureau is fully responsible for the contents of the final document.

Approximately twenty short-term consultants assisted the Bureau's staff in performing this study. Most of the consultants are well known for having had successful experience in the field of vocational-education or in conducting school evaluations. All consultants were New Mexico residents. The consultants came to the Bureau from vocational-technical organizations and universities located in the state. Care was taken to see that the consultants who were employed for the project possessed the capabilities which would best supplement those already available in the Bureau. The evaluation team membership represented local, state and national vocational-technical educational programs in appropriate proportions.

## COST OF THE STUDY

A final tabulation of the expenditures for this study cannot be completed until after the second report (Secondary Vocational-Technical Education) is prepared next spring. However, they can be reasonably well approximated at this time. The major expense items are the cost of staff and consultants ($5,000); preparation of 700 copies of each of the two reports ($3,000); communication, travel and per diem ($600); secretarial and clerical assistance

($700); office supplies, overhead and miscellaneous ($800) for a combined total of $10,000 for the study. Needless to say, the small amount available for the contract, in comparison to the $18,000 to $22,000 the Bureau initially estimated as the probable cost of a first-time indepth evaluation study, considerably limited the collection and the interpretation of data: A large number of New Mexico educators and other citizens voluntarily devoted considerable time and effort to the study, and thus, it is still possible to complete the study.

# CHAPTER II
# NEW MEXICO'S "WORLD OF WORK"

## ANALYSIS

The characteristics of New Mexico's "world of work" give considerable guidance to the development and implementation of the State's vocational-technical education program. It thus behooves us to examine these characteristics. The current and projected New Mexico "world of work" has been comprehensively depicted in a number of recent reports. The following quotations have been selected from several of these compilations to present to the readers of this report a succinct and broad view of the economic, social, demographic and geographic factors shaping New Mexico's "world of work." The first concerns geographic factors:[a]

> "New Mexico extends about 350 miles from north to south and slightly less from east to west. With an estimated total population of 1,020,100, and an area of 121,666 square miles, it ranks fifth in size of the fifty states. Of this total area, 156 square miles is permanent water surface. The remaining 121,511 square miles is primarily dry land.[1] The terrain is extremely varied and consequently, the climate also varies. Two ranges of the southern Rocky Mountains, the San Juan and the Sangre de Cristo Mountains enter the state from the north and their meridional trend is continued to the southern border of the state by a series

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[1] U. S. Department of Commerce, Bureau of The Census, Statistical Abstract of the U. S., 1964.

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a) New Mexico Comprehensive Manpower Plan, Fiscal Year 1970: Part A.

> of ranges of varied altitude. Approximately 8.9 percent of the state's area lies above 8,000 feet. The largest rivers of the state are the San Juan, Rio Grande, Gila and the Pecos.[2/]
>
> New Mexico has a wide range of soils and soil conditions and a diversity of vegetation due to variations in elevation, precipitation, natural soil moisture conditions, temperature and length of growing season.
>
> The state as a whole has many recreational areas in nearby mountains, as well as an abundance of hunting and fishing spots that are scattered throughout and cliff dwellings of prehistoric Indians. Natural wonders are several national monuments such as: White Sands, Carlsbad Caverns, Aztec Ruins, Bandelier, Chaco Canyon and the Gran Quivira. The state also has several winter sports areas and state monuments open year round."

The nationally recognized economist, Gerald J. Boyle, recently presented his interpretation of the State's economic picture:b)

> "The economy of the State of New Mexico has fallen farther and farther behind that of the United States since 1960; at that time the New Mexico per-capita income was almost 90 per cent of the U. S. average, but it has since fallen to about 78 per cent, taking us back to the

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[2/] U. S. Department of the Interior.

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b) Gerald J. Boyle, "The Economic Progress of New Mexico Since 1948," New Mexico Business, Bureau of Business Research, University of New Mexico, Vol. XXII, (September, 1969).

relative level that prevailed in the late 1940s. In more immediate terms this fact means that the standard of living for the average United States citizen is substantially above our own: His purchases and enjoyment of such things as food, automobiles, medical care, education, and savings bonds are now about one third greater than our own. Not only has the State fallen behind, but under the present course there is no end in sight: The factors causing the decline are still operating; and, since the process could become cumulative, we are in desperate need of a slowing and a reversal of the trend.

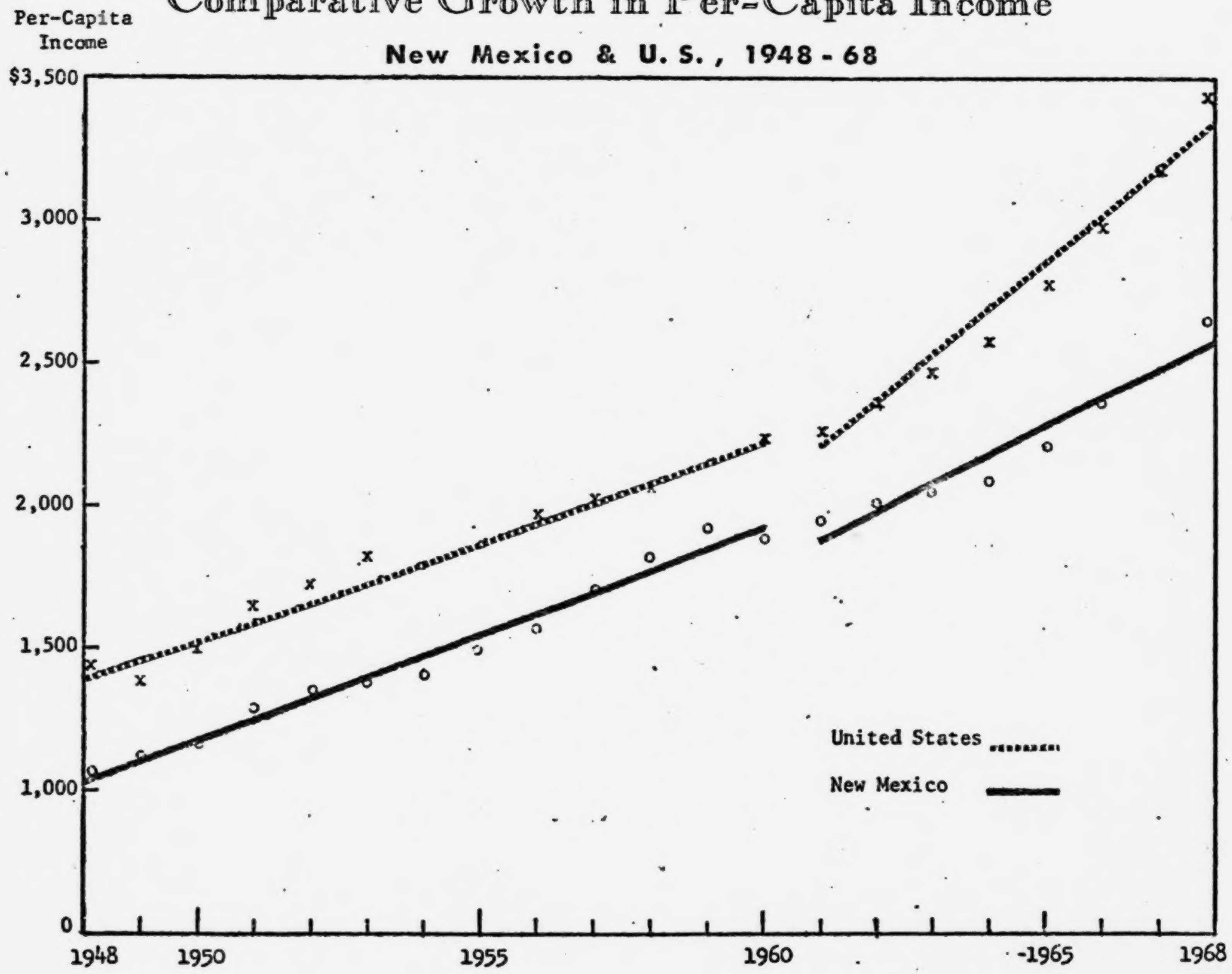
This decline in New Mexico's position relative to that of the U. S. does not mean that the State's economy has been at a standstill. Nor does it mean that the State has not benefited from the uninterrupted prosperity of the '60s. However, it does mean (as indicated in Chart A) that the average growth rate for New Mexico, which was slightly higher than that of the U. S. during the 1950s, has fallen substantially below the national rate during the 1960s.

While the past is indeed bleak, there are bright portents for the future. During the last decade the national economy has become "services-oriented." In other words, more than half of the Nation's resources are currently devoted not to the production of goods but rather to the production of an ever-growing variety of services. This trend is the wave of the future, and this is the type of economy for which New Mexico is best suited."

CHART A

# Comparative Growth in Per-Capita Income

## New Mexico & U. S., 1948 - 68



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"Fortunately, the picture is not all gloom. While military spending continues to diminish as a source of income, spending by New Mexico state and local governments is taking up the slack. From 1948 to 1968 the share of income contributed by state and local governments more than doubled, increasing from 5.5 percent to 12.0 per cent. The corresponding increase for all states was only about three fourths--from 4.2 per cent to 7.8 per cent. Therefore, as federal-military spending declined, state-and-local spending stepped in and prevented what could have become a precipitous downturn in New Mexico's rate of growth.

Looking at the sources of state and local revenue, we see that this source of personal income is also dependent on the federal government. From 1948 to 1968, federal grants-in-aid to New Mexico rose from $14 million to $149 million--a more than tenfold increase during the 20-year period. For all states as a whole, grants-in-aid were only about six times greater in 1966 than in 1948 (see Table II)."

TABLE II

GENERAL REVENUES BY MAJOR SOURCES
New Mexico & United States, 1948 & 1968
(dollars in millions)

| | New Mexico | | | United States | | |
|---|---|---|---|---|---|---|
| | 1948 | 1968 | Percent Increase | 1948 | 1968 | Percent Increase |
| **Federal Grants** | $13.9 | $148.9 | 971 | $1,643 | $15,227 | 827 |
| **Taxes** | 38.4 | 217.1 | 465 | 6,743 | 36,400 | 440 |
| **Other** | 14.3 | 91.9 | 543 | 871 | 7,505 | 762 |
| **TOTAL** | $66.6 | $457.9 | 588 | $9,257 | $59,132 | 539 |

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"The major change that has been taking place in the private sector in both New Mexico and the United States is a shift from the production of "tangible goods" to a "service" economy. Over the postwar years emphasis has shifted from primary and secondary production into trade, finance, insurance, and real estate, services--personal, professional, business and repair--and general government. This has been the significant change, and in this regard New Mexico is going with the trend instead of against it. And everything possible should be done to continue to emulate the national pattern by fostering the development of the services industries."

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"What are the characteristics of this type of economy, and what is the pertinence of this shift for New Mexico? The inherent nature of the services sector is as follows:

1. It provides growing employment opportunities for women and older workers. The work is not physically demanding. What could be more beneficial to a smaller state than doubling the size of its labor force merely by utilizing women and older workers?

2. It tends to use more and more firms. What could be better suited to a state of small population but large area?

3. There is also a declining relative importance of physical vs. human capital because of the relatively small clientele served by the average services firm. What condition could be better suited to a state that has always been an importer of capital, both monetary and physical, and is, consequently, an exporter of earnings and profits?

4. This type of economy also tends, as we have already seen in the case of New Mexico, to generate stability in employment and results in a level of employment that is relatively well-insulated from the ups and the downs of the business cycle; and

5. A service economy develops a growing need for workers with more formal education.

Any of the points can be elaborated on, but the last point concerning the educational requirement of a services-oriented economy is of the greatest importance. The _average_ level of skill required in producing a service is substantially higher than that required in producing goods. And the word _average_ is worth emphasizing because, of course, a great range of formal educational requirements exists within any industry. The impact of the services transformation on educational requirements is made evident by two basic comparisons. First, let us look at workers with fewer than nine years of school: 63 per cent of such workers were employed in the goods-producing industries in 1960, while only 37 per cent were employed in services. Second,

> if we look at workers with more than 12 years of formal schooling, the situation is reversed. Among this group only 32 per cent are employed in the goods industries, while 68 per cent are producing services. In 1960, total employment was evenly divided between goods and services."

Economist Boyle concludes his report by calling attention to his belief that in the longer run New Mexico's future will depend on the skills and abilities of its people. He re-emphasizes the shift in the state's economics to a "services" economy and emphasizes the need to use benefit/cost analysis to determine the useful degree to which resources are being applied. To improve the state's import/export balance, he suggests the possibility of further developing New Mexico as a center for the performing arts, further developing New Mexico's research and consulting business, New Mexico's program to attract South American students to its institutions of higher learning and the State's tourism and recreation business.

A little earlier, another economist pictured the history of the State's economical development and reached similar conclusions concerning the general economic status of New Mexico:c)

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c) Gilbert W. Bonem, "A Preliminary Report on New Mexico's Economy in 1968," New Mexico Business, Bureau of Business Research, University of New Mexico, Vol. XXII, (January, 1969).

"In 1968, as in the last few years, economic activity in New Mexico expanded at a relatively slow rate, lagging behind both that of the Nation and that of most other states. Income and employment in 1968 rose above their levels for 1967, but only moderately. Preliminary reports indicate that during the first six months of last year the total income received by New Mexico residents increased 6.3 per cent over income for the same period in 1967; the corresponding national rate of increase was 8.5 per cent. More significantly, during the first nine months total nonagricultural wage-and-salary employment in New Mexico expanded only 0.6 per cent; for the United States the firgure was 2.3 per cent. The relatively sluggish development of the New Mexico economy during 1968 was clearly a continuation of past trends, and a brief review of the historical development of that economy will prove useful in analyzing last year's situation.

Prior to World War II the State's economy was based almost entirely upon extraction of natural resources. Agriculture, (especially, cattle and sheep ranches) and mining activity (primarily the extraction of copper, coal, and petroleum) provided our economic cornerstones, a typical situation during this period, not only in New Mexico, but also in most of the West.

During and after World War II the cattle-copper-oil economy of New Mexico, like the economies of all Southwestern States, underwent change. In New Mexico modernization centered around the airplane and nuclear technology. Military installations involving aerospace technology at Albuquerque, Alamogordo, Clovis, and Roswell and the development of nuclear and related weaponry in Los Alamos, Albuquerque, and White Sands meant that new forms of economic activity had been placed upon the existing foundation of natural-resources extraction. The new activities were based upon federal military expenditures, Department of Defense contracts, and Atomic Energy Commission contracts; and with the advent of World War II and the Cold War of the 1950s rapid expansion occurred. At the same time, some of the extraction activities, particularly those related to petroleum and natural gas, continued to grow; and the New Mexico economy expanded in all dimensions, including income, employment, and population.

For our purposes, we will consider that the most recent period of economic growth in New Mexico began in 1948 (though, in fact, it commenced during World War II). From 1948 through 1959 total income received by New Mexicans increased 9.3 per cent per year, substantially above the national rate of 6.6 per cent. Income received per person grew 5.3 per cent each year during that period--almost one and a half times larger than the national rate of gain of 3.8 per cent. At the same time, the annual rate of increase of New Mexico's population was twice that of the U. S.: 3.4 per cent in New Mexico, but only 1.7 per cent in the U. S. The economic basis for expansion during this period was, as has been stated, primarily growth of activities related to the airplane and to nuclear technology. In 1948 the government and services sectors--the latter including private research-and-development activities--provided some 35 per cent of the wages and salaries paid in New Mexico; by 1959 the figure climbed to 45 per cent. Although economic growth from 1948-59 resulted largely from government activity and research-development, older forms of activity, particularly crude-oil and natural-gas production, continued to prosper.

The year 1959 marked a turning point in the development of New Mexico's economy. Since that year income, employment, and output have grown at a much slower rate than in the preceding 15 years and have lagged behind the national economy, as well. Beginning approximately in 1959, expansion in government and in the research-development sector began to slow down. Indeed, two sizeable installations--Walker Air Force Base in Roswell and ACF Industries in Albuquerque--were closed during the period. Although the extraction of natural resources continued to be important in the State's economy, the rate of growth of output in this sector, particularly in crude-oil and natural-gas production, was lower than in the preceding 15 years. The decline in the growth rate of the key advanced-weaponry sector and the lack of development of other growth sectors have prevented New Mexico's economy from keeping pace with that of the United States.

In 1968 the trends in the State's economy that had originated in 1959 continued. During the first nine months of 1968 employment and income expanded less rapidly than in the Nation; in addition, New Mexico's population grew more slowly. Because of the slow growth of the economy, the rate of unemployment remains high and above the national level. Table 1 gives the New Mexico and the U. S. rates of unemployment for the last 11 years.

### TABLE I

### UNEMPLOYMENT RATES IN NEW MEXICO AND THE UNITED STATES
### 1957-68

| | New Mexico | U. S. |
|---|---|---|
| 1957 | 3.2% | 4.3% |
| 1958 | 4.0 | 6.8 |
| 1959 | 3.5 | 5.5 |
| 1960 | 5.4 | 5.5 |
| 1961 | 6.5 | 6.7 |
| 1962 | 5.6 | 5.5 |
| 1963 | 5.8 | 5.7 |
| 1964 | 5.9 | 5.2 |
| 1965 | 5.5 | 4.5 |
| 1966 | 5.0 | 3.8 |
| 1967 | 4.9 | 3.8 |
| 1968* | 5.2 | 3.6 |

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*January through October
Source: N.M. Employment Security Commission

The New Mexico unemployment rate is computed by the New Mexico Employment Security Commission and the U. S. rate by the U. S. Bureau of Labor Statistics. Different techniques of estimation are used by the two agencies. Consequently, the two series are not strictly comparable.) The New Mexico unemployment rate was the lower until 1960; since then, it has been the higher. Moreover, employment has shown little improvement in the State during the last three years, and preliminary data indicate that in 1968 it did not improve.

The relatively slow pace of economic activity in New Mexico last year was the result of several elements. No significant expansion occurred in Government and Research-Development. In fact, the adverse effect of closing a major government contractor--ACF Industries in Albuquerque--was still felt. In the national-resources industries, copper production increased significantly after settlement last March of a long strike. However, potash production continued its 1967 decline. Apparently, agricultural income increased slightly during 1968, but not sufficiently to affect the growth rate of the economy. Finally, and perhaps most importantly, the economic stagnation in the northern section of New Mexico appears to have continued, though attempts are being made to reverse the situation."

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"Despite the expansion of the U.S. economy in 1968, the New Mexico economy was not notably buoyant. A similar statement can be made regarding most areas within the State. Nevertheless, a few did experience noticeable expansion; and others afford hope that present efforts will provide the framework for future economic growth.

Developments in and around Silver City in 1968 resulted in increases in employment and income. First, the lengthy copper strike, involving the United Steelworkers Union and the

Kennecott Corporation, was settled late in March. The strike had begun in July 1967 and had involved over 1,000 workers in the Silver City area. The new contract provided for an average wage increase of about 55 cents per hour spread over 40 months and an estimated additional 50 cents per hour in fringe benefits spread over the same period. During the nine-month strike, copper production in New Mexico had declined to an average of 3,800 tons per month. By the middle of April, production had returned to the more customary level of 9,000 tons per month.

The second major factor in the development of southwestern New Mexico was the earlier decision of Phelps-Dodge Corporation to spend approximately $50 million during 1968 on construction of open-pit copper-mining facilities at Tyrone south of Silver City. The project involves not only the construction of an open-pit mine, but also the construction of housing, administrative, and related facilities. At the present time, more than 1,000 persons are estimated to be employed on the project, the initial phases of which began in 1967. The facility is designed to produce 55,000 tons of copper annually, and would increase such production in New Mexico about 50 per cent.

The economy of the southeastern portion of the State during 1968 appeared to be dominated by continuing adverse developments in the potash industry. As a result, primarily of rapidly growing production of Canadian potash, prices began to decline, and operations in the Carlsbad area began to encounter difficulty. In November 1967, U. S.

Borax, the large pioneer producer of potash in the area, closed its Carlsbad facilities. In February 1968, International Minerals and Chemical Corporation reduced its production, and in May of this year Potash Company of America reduced its output approximately 30 per cent. In September the U. S. Borax facilities in the Carlsbad area were purchased by U. S. Potash and Chemical Company, and production from this facility started, again. However, the target output of the new company was only 40 per cent of that of U. S. Borax during previous years. As a result of potash layoffs unemployment in the Carlsbad area has risen. In June the Department of Labor declared the area to be one of "substantial unemployment"; that is, an area with an unemployment rate exceeding 6 per cent.

Economic activity accelerated in the Alamogordo area last year because of the transfer to Holloman Air Force Base of the 49th Tactical Fighter Wing, previously stationed in Europe. The group began arriving at Holloman in July, and it is estimated that 2,000 additional personnel will be stationed there. Also, there has been an increase in construction activity in the Alamogordo area brought on by the need for additional housing and administrative facilities.

The Albuquerque economy continued to be sluggish throughout the year. As shown in Table 4, total employment failed to increase in the Albuquerque area during the first nine months of the year. There is some evidence that the previous year's closing of ACF Industries was still echoing in

## TABLE 4

## TOTAL QUARTERLY NONAGRICULTURAL EMPLOYMENT
Bernalillo County, 1967 & 1968
(thousands of persons)

| | Quarters | | | | |
|---|---|---|---|---|---|
| | 1st | 2nd | 3rd | 4th | Average, first three quarters |
| 1967 | 97.8 | 99.5 | 99.2 | 99.7 | 98.8 |
| 1968 | 98.0 | 99.7 | 98.5 | n.a. | 98.7 |

Source: N. M. Employment Security Commission

the Albuquerque area. The former ACF plant is now being operated by General Electric; however, the latter is estimated to employ 800 persons and the former, during mid-1967, had employed approximately 2,200. The change in ACF operations thus meant a direct loss of 1,400 jobs, plus at least half that many indirectly. Consequently, approximately 2 per cent of the Albuquerque labor force was adversely affected by the ACF closing. Clearly, the Albuquerque economy was not to be expected to experience rapid growth in 1968 after an adverse event of this magnitude in the previous year.

Northern New Mexico has long been characterized by high rate of unemployment, low incomes, and steady emigration. Available information indicates a continuation of these conditions during 1968. However, the region was given hope during the year by the emergence of the Four Corners Regional Commission. The Commission, underwritten by the Federal government, is

> to sponsor a comprehensive program of economic development in an area embracing 92 counties in New Mexico, Arizona, Utah, and Colorado. The New Mexico counties are those of the northern part of the state. Preliminary indications are that the Four Corners Commission intends to emphasize the construction of an infrastructure in the Four Corners Region; that is, it will concentrate upon the development of highways and access roads, basic sanitary facilities, and human-resource-development programs such as training and education. For the current year the Commission has an appropriation of $1 million for planning and administrative costs and an additional $2 million for project grants. The level of annual appropriations for future projects will conceivably be as high as $10 million."

The authors of a recent Sterling Institute vocational education study discussed the New Mexico economy from a slightly different approach, but also reached similar overriding views. Their discussion of economic unbalance and the predominat role of Albuquerque in the State's economy are interesting:[d)]

> "New Mexico's economy is significantly unbalanced when compared with the rest of the country. Over half of the State's civilian employment is in the three sectors of mining, services and government, as compared with only a third of the nation as a whole.

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[d)] Final Report, A Master Plan for the Development of Vocational-Education in New Mexico, Prepared for the Economic Development Administration; U. S. Department of Commerce by the Sterling Institute, Washington, D. C., 1969.

> Manufacturing accounts for 28 percent of total U. S. employment but only about six percent of New Mexico's. New Mexico's personal income from manufacturing in 1967 ($123,000,000) was lower than every state in the U. S. except Wyoming. This difference in manufacturing employment is compensated for by the three previously mentioned sectors. The 22 percentage points by which New Mexico lags the U. S. in manufacturing employment is roughly offset by the 21 percentage points by which it exceeds the national ratios for mining, services and government."

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> "Another indication of New Mexico's economic imbalance is the contribution of its export trade to gross state product. According to the U.M.M. Input-Output Study, New Mexico's exports and "export-like" federal government expeditures, based on 1960 data, totaled $1.605 billion.[2] In the same year, imports amounted to $1,515 billion. Hence, the net contribution to the State's gross product was negligible[1]. . ."

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> "As New Mexico's primary urban center, Albuquerque clearly dominates the State's economic picture. About one-third of the population live and work in Albuquerque. This is not by itself economically detrimental. On the contrary, it is generally accepted that economic growth normally accompanies urbanization. However, if the

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[2] A Preview of the Input-Output Study, Bureau of Business Research, October, 1965. We have been assured by the Bureau of Business Research that the relative significance of these data are still accurate.

[1] Summary Reports on New Mexico's Resources, State Planning Office, February, 1966.

urban center is not growing, the effects on the surrounding region are likely to be pronounced. This apparently is happening in the case of Albuquerque.

Population increase in 1967 over 1966 was barely discernible, despite a birth rate three times the death rate. Total employment in the same period increased only about one percent--or 1,100 jobs. This is not a vigorous performance, and the reasons for it, again, are a matter of economic balance. With the obvious exceptions of agriculture and mining, Albuquerque's distribution of employment is very similar to the rest of the State. It does not provide the significant manufacturing base that Los Angeles provides the rest of California, for example, or that Atlanta provides Georgia and Houston provides Texas. Table 2 illustrates this fact.

TABLE 2

PERCENTAGE OF CIVILIAN EMPLOYMENT
1967 (MARCH ESTIMATE)*

| | New Mexico | Albuquerque | New Mexico Less Albuquerque |
|---|---|---|---|
| Agriculture | 6.7 | 0.04 | 9.8 |
| Mining | 4.9 | 0.01 | 7.2 |
| Construction | 4.8 | 5.1 | 4.6 |
| Manufacturing | 5.5 | 7.8 | 4.3 |
| Trans. & Utilities | 6.1 | 6.3 | 6.0 |
| Trade | 16.8 | 21.1 | 14.6 |
| Fire | 3.3 | 5.2 | 2.5 |
| Service | 14.7 | 21.0 | 11.6 |
| Government | 25.2 | 22.5 | 26.5 |
| Other | 12.1 | 10.6 | 12.9 |

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* Source: New Mexico State Employment Services

The difference between Albuquerque and the rest of the State in agriculture and mining are made up in the expected areas of trade, F.I.R.E. (finance, insurance, real estate) and service. The difference in the manufacturing sector is not that marked. Albuquerque's impact on the New Mexico economy can perhaps best be seen by comparing column one of the foregoing table with column three. It becomes apparent that while Albuquerque is a large part of the overall economy, it is not much different from it. The striking differences between urban and non-urban segments of a vigorously growing economy are not present."

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The overall population trend for New Mexico is downward.....although there was an absolute increase in population between 1960 and 1967, there was an inferred decline of nearly 10 percent.

Those counties which relied most heavily on an agrarian or mining economy were most affected by out-migration. Twenty-six of New Mexico's 32 counties experienced inferred out-migration during this period, and half of the counties saw an absolute decline in population. The counties experiencing the heaviest rate of emigration are also characterized for the most part by a heavy Spanish surname and Indian population. Additionally, despite the out-migration, they have unemployment rates twice to nearly four times the State average. Furthermore, five of these counties (Sandoval, Rio Arriba, Taos, Mora and San Miguel), though

> accounting for only 8.5 percent of the State's population, receive over 20 percent of the cash welfare payments. These counties average 76.4 percent Spanish surname and Indian populations."

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A very detailed analysis of New Mexico's employment by major industry and labor market trends was reported in a recent State CAMPS Coordinating Committee report. It contains worthy directional signals for New Mexico's future vocational-technical education program:[e)]

> "Annual average 1968 estimated non-agricultural employment by major industry for New Mexico was:
> Mining: 15,800 (5.7%); Contract Construction: 17,300 (6.3%); Manufacturing: 17,900 (6.5%); Transportation at Public Utilities: 19,800 (7.2%); Wholesale and Retail Trade: 57,200 (20.8%); Finance Insurance and Real Estate: 11,400 (4.1%); Services: 51,500 (18.7%); Government: 84,700 (30.&%); and all other non-agricultural 39,300 (11.6%). Agricultural employment was estimated at 6.5% of the labor force.

> "Trends by major industry in 1968 were: Agriculture: Farm employment experienced a moderate decline. Mining: nonmetallics experienced a sharp drop in 1968 due to the closing of a Potash mine in Carlsbad. Crude petroleum and natural gas recorded a moderate increase. Construction: an increase in employment due primarily to gains

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[e)] New Mexico Comprehensive Manpower Plan, Fiscal Year 1970: Part A.

> in non-building construction. Other significant activities in construction include highway construction, water resources development type construction. Manufacturing: In the beginning of 1968, the manufacturing industry still appeared to be suffering from the phasing out of ACF Industries in Albuquerque. In the latter part of the year there was an increase in employment which can be attributed to gains in the electrical machinery and transportation equipment groups. Transportaion, communication, utilities: In transportation, there was a little change in 1968 since railroad loses were offset by air transportation gains. Virtually no change for communications and utilities. Trade: There was little change in 1968. Increases in wholesale trade and retail food offset by decreases in eating and drinking establishments. Services: There was continued increase in 1968 although there was a decrease in miscellaneous business services. Government: For 1968, continued gain in State and local employment along with some decrease in Federal government."

Table C of the same report shows estimated civilian work force, unemployment and employment in more detail:

## TABLE C
## NEW MEXICO
## ESTIMATED CIVILIAN WORK FORCE, UNEMPLOYMENT, AND EMPLOYMENT
Annual Averages, 1965-1968 1/

| | 1968 | 1967 | 1966 | 1965 |
|---|---|---|---|---|
| TOTAL CIVILIAN WORK FORCE | 356,600 | 355,500 | 356,400 | 352,100 |
| UNEMPLOYMENT | 18,300 | 18,300 | 18,000 | 19,400 |
| Percent of Work Force | 5.1 | 5.1 | 5.1 | 5.5 |
| WORK STOPPAGES | 300 | 400 | 0 | 100 |
| EMPLOYMENT | 338,000 | 336,800 | 338,400 | 332,600 |
| ALL OTHER 2/ | 62,400 | 64,100 | 66,600 | 70,100 |
| NONAGRICULTURAL WAGE & SALARY | 275,600 | 272,700 | 271,800 | 262,500 |
| MINING | 15,800 | 15,900 | 16,300 | 17,000 |
| Metal Mining | 5,200 | 4,500 | 4,400 | 4,300 |
| Nonmetallic (exc. Petrol. and Gas) | 3,300 | 4,200 | 4,500 | 4,600 |
| Crude Petroleum & Natural Gas | 7,300 | 7,200 | 7,400 | 8,100 |
| CONTRACT CONSTRUCTION | 17,300 | 16,500 | 18,300 | 19,400 |
| MANUFACTURING | 17,900 | 18,000 | 18,400 | 17,200 |
| Durable Goods | 10,400 | 10,400 | 11,000 | 10,300 |
| Nondurable Goods | 7,500 | 7,600 | 7,400 | 6,900 |
| TRANSPORTATION & UTILITIES | 19,800 | 20,100 | 20,200 | 19,800 |
| Railroad Transportation | 3,600 | 4,200 | 4,500 | 4,300 |
| Transportation Except Railroad | 6,100 | 5,700 | 5,600 | 5,500 |
| Communications & Utilities | 10,100 | 10,200 | 10,100 | 10,000 |
| WHOLESALE & RETAIL TRADE | 57,200 | 57,000 | 56,900 | 54,900 |
| Wholesale Trade | 10,200 | 10,100 | 9,800 | 9,700 |
| Retail Trade | 47,000 | 46,900 | 47,100 | 45,200 |
| Food | 6,000 | 5,900 | 6,000 | 5,800 |
| Auto Dealers & Service Stations | 9,200 | 9,100 | 9,100 | 8,700 |
| Eating & Drinking Places | 11,400 | 11,800 | 11,500 | 10,700 |
| Other Retail Trade | 20,400 | 20,100 | 20,500 | 20,000 |
| FINANCE, INSURANCE, & REAL ESTATE | 11,400 | 11,200 | 11,400 | 11,400 |
| SERVICE & MISCELLANEOUS | 51,500 | 50,600 | 49,300 | 47,400 |
| Hotels & Lodging Places | 5,000 | 5,100 | 5,300 | 5,200 |
| Personal Services | 4,700 | 4,700 | 4,800 | 4,700 |
| Other Services & Misc. | 41,800 | 40,800 | 39,200 | 37,500 |
| GOVERNMENT | 84,700 | 83,400 | 81,000 | 75,400 |
| Federal | 27,600 | 28,400 | 27,900 | 26,600 |
| State & Local | 57,100 | 55,000 | 53,100 | 48,800 |

1/ Subject to revision. 1968 data are preliminary. Nonagricultural wage and salary employment was prepared in cooperation with the U. S. Bureau of Labor Statistics.

2/ Includes nonagricultural self-employed, unpaid family and private household workers, and agricultural workers.

The New Mexico comprehensive Manpower Plan describes in considerable detail where specific job opportunities do exist and cites the scope of the role emerging of the new Four Corners Regional Commission:[f)]

> "Current job opportunities which are consistently available in various areas in New Mexico include Miners, Licensed Practical Nurse, T.V. Service and Repairman, Patrolman, and Medical Technician. In 1968, the following occupations and their respective areas were the most difficult to fill: Licensed Practical Nurse--Alamogordo, Espanola, Santa Fe, and Silver City; Television Service Repairman--Silver City, Grants, and Alamogordo; Patrolman--Albuquerque and Santa Fe; Medical Technician and Maid--Espanola and Alamogordo, respectively: Miners--Grants.
>
> It is expected that in FY-70 job opportunities will continue to be available in the occupations of Metal Miner, Medical Technician, Licensed Practical Nurse, Machinist, Policeman, T.V. Repairman, Cottage Parent, Nurse General Duty, Electrical Engineer, Mechanical Engineer, Lathe Operator; Mechanic, and Commission Salesman.
>
> Increased mining activity is expected for the Grants, Taos, and Silver City area during fiscal year 1970; subsequently, some jobs could develop in the Service and Trade industries should a significant increase in Mining employment accompany

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f) New Mexico Comprehensive Manpower Plan, Fiscal Year 1970: Part A the anticipated increased activity in that industry. Other industries which should have substantial job opportunities, as a result of expected increased activity for fiscal year 1970, are in the groups of electrical machinery, transportation equipment, and apparel manufacturing, and in medical services.

Moderate gains are anticipated, largely in state and local governments.

The Four Corners Regional Commission emerged during 1968 and hopefully will assist in solving the high rate of unemployment, low incomes, and steady imigration that are characteristics of at least the northern part of the state. The Commission, underwritten by the Federal Government is to sponsor a comprehensive program of economic development in an area embracing 92 counties in New Mexico, Arizona, Utah and Colorado (including most of New Mexico). Preliminary indications are that the Four Corners Commission intends to emphasize the construction of an infra-structure in the Four Corners Region; that is, it will concentrate upon the development of highways and access roads, basic sanitary facilities, and human-resources-development programs such as training and education. For the current year the Commission has an appropriation of $1 million for planning and administration and an additional $2 million for project grants. The level of annual appropriations for future projects will conceivably be as high as $10 million.

A study conducted in all Local Offices of the NMSES in 1968 unveiled the following job openings by broad occupational groups due to lack of qualified applicants:

| Occupational Group | Openings Unfilled |
|---|---|
| Professional, Technical & Managerial | 102 |
| Clerical | 9 |
| Sales | 3 |
| Domestic | 10 |
| Service (except domestic) | 23 |
| Processing | 0 |
| Machine Trades | 21 |
| Bench Work | 8 |
| Structural Work | 12 |
| Miscellaneous | 120 |
| Total | 308 |

Based upon examination of the supply and demand information collected for the study, the applicant supply significantly exceeded applicant demand in all categories. Looking futher, occupational detail for comparative purposes, it is impossible to ascertain how many unfilled jobs might possibly have been filled by the applicant supply. However, based upon the broad classification analysis, it seems reasonable to suspect that some vacancies could have been filled by the supply of applicants on hand, whose qualifications would have closely approximated those of the needed workers. In comparing demand and supply information by broad occupational groupings, it was found that the number of applicants per unfilled job opening varied from 18 per opening in the

> professional, technical and managerial category to 264 in the structural work category. Figures that seem to indicate a lack of either volume or concentration of shortage occupations for group vocational training indicates that on-the-job training (OJT) might prove to be a practical approach in alleviating some of the current occupational shortages."

The report contained considerable other data concerning the status and problems of manpower in New Mexico. For example, it emphasizes that the lack of reliable transportation critically affects employability, and that the sparse population of the state often lives far from major population work centers. The report states that as large as Albuquerque is, even it does not have an adequate public transportation system.

Thus, poverty level workers very often need automobiles to secure and hold jobs in New Mexico. Meanwhile, the immobility of the State's workforce is causing New Mexico employers to look for workers in adjacent states.

> "Local ESC office reports estimate that, as of February 25, 1969, three out of four of the applicants registered throughout the state would not relocate to a job. This high immobility of 75% is in contrast to New Mexico's implied out-migration of more than 90,000 since 1960. There are several possible

> explanations for this incongruity. First, the ESC offices do not attempt to "sell" applicants on out-migration, but merely accept and record their reaction to the possibility of relocation, either in-state or out. It is quite possible that many who say they would not relocate change their mind and do so later. It is also possible that the out-migration from the state is primarily by individuals who do not use the ESC offices--the better educated, better trained and more self-reliant.
>
> This apparent lack of mobility in the state's Disadvantaged has forced prospective employers to look out of state for labor. The uranium mines at Grants tried to utilize labor from northern New Mexico. Because of high turnover to "return home," the mines are now importing labor from Canada. (Presbyterian Hospital is likewise recruiting from Canada.) The oil fields in southeastern New Mexico are importing labor from west Texas. The irrigated farms in the Las Cruces area obtain their labor through clearance orders from El Paso."

## EDUCATIONAL ANALYSIS

Several critical educational factors influence enrollment in New Mexico's post-secondary schools. Two of these are related to the current inability of the State's high schools to graduate a larger proportion of their enrollees: 1) the state-wide high school dropout rate approximates 35 percent (the U. S. rate is closer to 25 percent); and 2) public secondary school vocational programs serve only about 28 percent of those students instead of the approximately 50 percent that should be enrolled.[2)] Dropout conditions in the State's institutions of higher education also contribute to the post-secondary school needs of New Mexico. A thorough study conducted at the University of New Mexico serves to illustrate this point.[h)] The enrollment status of the entering class of 1963 was analyzed, and it was discovered that 47 percent of the students dropped out of college in their early semesters, and over 65 percent by the end of the fourth year; all of them did not fail; they left for many other various reasons including the hope of finding other educational opportunities more relevant to their personal vocational interests and abilities.

The value of the above information is obvious. Enrollees in New Mexico post-secondary schools are going to include high school dropouts, high school graduates

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[2)] "An Analysis of the Major Deficiencies in the New Mexico Schools and Recommendations for Curriculum and Instructional Improvement" By Valenciaoh the Southwestern Cooperative Educational Laboratory, Albuquerque, 1968.

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[h)] "The Invisible Student, A Longitudinal Study of the Beginning Freshman Class of 1963 at the University of New Mexico." University College and Counseling Center, University of New Mexico, Albuquerque, 1969.

and college dropouts. In addition, experience clearly indicates that the schools will train not just the young but many older persons, people who are unemployed, underemployed and in need of initial training and retraining. The average age of students attending post-secondary schools may very well average 25 to 30 years of age.

The diverse nature of this student body is noteworthy. It has implications for curriculum, for projecting enrollments, for facility design, for counseling, and many other serious concerns.

## CONCLUSION

The foregoing materials depict a difficult situation. Employment opportunities are relatively few. Present educational systems are not meeting the needs of many of New Mexico's young people. Money is in short supply. Those citizens who now seem to need post-secondary educational opportunities are members of the most difficult groups to analyze, understand and help. They are the people whose educational problems have not been resolved.

The State and its citizens are faced with important questions. Is the scope of its present vocational-technical program sufficient? Are the programs sufficiently relevant? And, are the benefits worthy of their costs?

## CHAPTER III

# VOCATIONAL-TECHNICAL EDUCATION IN THE UNITED STATES AND NEW MEXICO

## NATIONAL BACKGROUND

In terms of its potential, vocational-technical education played a relatively minor role in U. S. education until the year 1963. Admittedly, it did play an important role in selected commercial, industrial, and agricultural fields, but little or no support was given to many commercial and industrial fields. This was true to a much greater extent at the post-secondary school "skill development" level than it was at the secondary school "exploratory" level.

The passage of the Nation's "Vocational Act of 1963" provided a springboard from which the future of U. S. vocational-technical education would be markedly changed. Within the six years immediately following 1963 in excess of 500 vocational schools were constructed throughout the U. S. Post-secondary education was a major benefactor of both the 1963 Act, and the Amendments of 1968. Post-secondary education finally began to receive the needed national emphasis.

The primary purpose of both the original Vocational Act of 1963 and the subsequent 1968 Amendments was the reduction of nationwide unemployment. No doubt, the Congress was also looking forward to the problems to be faced as a larger national population of a lower average age tried to gain employment at a time when technological developments would be demanding better educated workers. It was also recognized that sociological changes would be decreasing the opportunity for young adults to secure meaningful employment.

The 1968 Amendments required citizen involvement in the new national vocational education program at the national, state, and local levels; many citizens, therefore, are now serving on Federal, state, and local vocational advisory councils. At the national level, a U. S. Vocational Advisory Council has the assigned responsibility for advising the U. S. Commissioner of Education on vocational education developments. State vocational advisory councils are required to submit evaluation reports to state commissioners of education through state boards of education and to the National Vocational Advisory Council. Local advisory groups advise the administrators and governing boards of local institutions on the scope and content of programs.

## STATE BACKGROUND

The history of vocational education in New Mexico's public school systems is relatively brief. It has been little more than 50 years since the first Federal act to support vocational education in New Mexico was passed by the U. S. Congress. The Smith-Hughes Act of 1917 created a Federal-state-local partnership whereby the schools became an institution in our society for preparing students, both school age and adult, for employment.

Throughout the five decades since, vocational agriculture, trade and industrial education, and home economics classes have been offered in New Mexico school systems, but nothing was done toward organizing the program or establishing a state division of vocational education. Most schools felt vocational education had been forced upon them with the enticement of federal funds.

After Congress passed the Vocational Act in 1963, New Mexico established a Vocational Division as a part of the New Mexico Department of Education. Following passage of the 1968 Amendments, the State Vocational Advisory Council was formulated. This document is the Council's first evaluation report. It concerns only post-secondary education in the State's four well-established post-secondary schools. The Council's next evaluation report will concern vocational-technical education in secondary schools; it will be completed by the UNM Bureau of Educational Planning and Development in April, 1970.

To stimulate developments, the 1968 Amendments made it possible for states to use Federal funds to develop comprehensive statewide vocational education plans. New Mexico took advantage of this provision and promptly developed a State Plan.a) Soon thereafter the Economic Development Administration funded a study which was performed by the Sterling Institute. The final report of the study was released in September, 1969, under the title "A Master Plan for the Development of Vocational-Technical Education in New Mexico." Before and after the release of this report the Division of Vocational Education released several papers related to planning and administering the State's vocational-technical educational system. To date these position and informational papers have largely related to establishing vocational-technical education as a worthy post-secondary public school activity, to assisting with defining labor market needs, to seeking guidance improvements, to expanding vocational schools and facilities, to securing greater state financial support and to discussing governance of the State's vocational-technical division.

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a) "New Mexico State Plan for the Administration of Vocational Education under the Vocational Education Amendments of 1968." New Mexico State Board for Vocational Education. Santa Fe, 1969.

Purpose. The purpose of New Mexico's vocational educational program is to provide financial assistance to approved schools and agencies seeking to develop job entry and job retraining skills in the citizens of New Mexico. Vocational educational opportunities are to be provided for persons of all ages throughout the State. The programs are to be of high quality, realistic in terms of actual or anticipated employment opportunities, and relevant to student needs, interests, and abilities.

Students are to be provided with information including working conditions, employment opportunities, and economic factors in a wide variety of employment fields. Exploratory experiences are to be made available. Efforts are to be expended to provide students with a realistic picture of the industrial and vocational complexities of the world of work. Programs are to contain training which will assist graduates to apply for and secure jobs. Concurrently, students are to receive education which will enable them to better understand the business operations of organizations, relationships between labor and management, and other vocationally related concepts. The vocational programs of the State are to help students improve their understandings of the relationships of laws, taxes, social security, home ownership, property responsibility, installment purchasing, and other governmental and non-job social responsibilities. Finally, students are to be assisted in realistically evaluating their abilities, in developing vocational confidence, and in selecting occupational training goals.

Legal Basis in New Mexico. Four laws have been created by the New Mexico Legislature to authorize the establishment of federally supported "Area Vocational Schools" in New Mexico, 1) The Junior College Act: 77-33-1, 2) The Technical and Vocational Institute Act: 83-34-1, 3) Branch Community College statutes 73-30-170, and 4) The Area Vocational School Act: 73-37-3.

Each of these laws has been utilized to establish one of the four post-secondary schools being evaluated in this study.

A statewide committee is currently analyzing the advisability of combining three of these acts. The committees efforts are reportedly being directed toward administrative simplification and improved coordination of the total state vocational-technical education program.

The committee was established by the State Vocational Advisory Council in 1969.

## STATUS OF POST-SECONDARY VOCATIONAL-TECHNICAL EDUCATION DEVELOPMENTS IN NEW MEXICO

Schools and Programs. Post-secondary programs operate in five area vocational schools and three technical institutes. Programs are in the same general areas as the secondary school level programs; added emphasis is given to health occupations and technical education.

The area vocational schools are:

1. Technical-Vocational Institute, Albuquerque, New Mexico (Technical-Vocational Institute Act: 83-34-1).
2. Northern New Mexico State School, El Rito, New Mexico (A Constitutional Institution).
3. New Mexico Junior College, Hobbs, New Mexico (Junior College Act: 77:33-1).
4. Eastern New Mexico University, Roswell Campus, Roswell, New Mexico (Branch Community College Statutes 73-30-17).

5. New Mexico State University, San Juan Branch College, Farmington, New Mexico. (Branch Community College Statutes: 73-30-17). Because of its newness this post-secondary school was not evaluated.

The three university technical institutes offer two year programs in technologies, e.g., electrical, electronics, machine, mechanical, drafting, civil engineering, electro-mechanical, data processing, and secretarial work. The three institutes are:

1. New Mexico Highlands University, Las Vegas, New Mexico
2. Eastern New Mexico University, Portales, New Mexico
3. New Mexico State University, Las Cruces, New Mexico

At New Mexico State University an agricultural institute provides programs in farm machinery services and landscaping and nursery, and a dental assistant program is offered at the University of New Mexico, Albuquerque, New Mexico. The University of Albuquerque offers an Associate degree in Nursing.

The size of the State's total post-secondary vocational education program is much greater than just the programs offered in the four schools being evaluated in this report. The following summary reveals the broader picture:

### POST-SECONDARY VOCATIONAL EDUCATION PROGRAMS, COSTS, TEACHERS, AND STUDENTS*

| Programs | Costs | Number of Teachers | Number of Students |
|---|---|---|---|
| Agriculture | 41,677 | 2 | 32 |
| Distributive Education | 11,493 | 2 | 60 |
| Home Economics | 0 | 0 | 0 |
| Health Education | 278,479 | 46 | 627 |
| Office Education | 328,857 | 31 | 2,939 |
| Technical | 295,666 | 39 | 1,295 |
| Trade and Industry | 413,682 | 25 | 451 |
| Totals | 1,369,854 | 145 | 5,404 |

*Source: "Vocational Education in New Mexico," Vocational-Technical Division, State Department of Education. Santa Fe, (November, 1969).

Thus, only a portion of the post-secondary programs offered in New Mexico are offered in the four area vocational schools studied by this team evaluation. The area vocational school programs include distributive education, mid-management, licensed practical nursing, registered nursing, dental technicians, secretarial training, drafting, data processing, and other trade programs.

The functions of the four schools were summarized in the latest Sterling Report:[b)]

FUNCTIONS OF THE FOUR AREA VOCATIONAL SCHOOLS IN NEW MEXICO

| | Associate Degree | Voc. Transfer Credits | Voc. Non-Transfer Terminal | High School Diploma | "Short" Courses MDTA, Etc. | Adult Basic Education | Other Adult Education |
|---|---|---|---|---|---|---|---|
| Hobbs | X | X | X | | X | | X |
| Roswell | X | X | X | | X | | X |
| El Rito | | | X | X | X | | |
| TVI | | | X | | X | X | X |

Characteristics and program developments of the four schools are more completely described in the evaluation section of this report. The above data are presented here solely for overview purposes.

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[b)] "A Master Plan For The Development of Vocational-Technical Education in New Mexico." Sterling Institute, Washington, D. C., 1968. (Final Report)

## FINANCIAL SUMMARY

The funding of the State's vocational-technical education program is a local, State and Federal effort. The Federal Government is the principal money source and these funds have been the principal stimulating force for matching State and local funds.

The F. Y. 1969-70 State Budget revenues are expected to be $3,050,352 and come from the following sources:

| | | |
|---|---|---|
| 1. | Federal | $2,370,853 |
| 2. | State | 617,033 |
| 3. | Other | 62,466 |
| | Total: | $3,050,352 |

$711,975 of the above total relates to the State's Manpower Development Training Act budget; $521,288 is budgeted for the post-secondary division; and the remainder is for all other programs. The estimated post-secondary division budget is:

### 58TH F. Y. - 1969-70
### ESTIMATED BUDGET - VOCATIONAL EDUCATION; POST-SECONDARY

| | Total | Federal | State |
|---|---|---|---|
| Supervision | $ 19,635 | $ 9,817 | $ 9,818 |
| Area Voc. Schools: | | | |
| TVI | 225,000 | 225,000 | |
| El Rito | 89,653 | 77,250 | 12,403 |
| Hobbs | 58,000 | 58,000 | |
| Roswell | 79,000 | 79,000 | |
| San Juan-Farmington | 25,000 | 25,000 | |
| San Miguel-Camp Luna | 18,000 | 18,000 | |
| Grant County-Bayard | 7,000 | | 7,000 |
| Total, Post-Secondary | $521,288 | $492,067 | $29,221 |

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Source: "Vocational Education in New Mexico," Materials prepared by Vocational-Technical Division State Department of Education, Santa Fe, New Mexico, (November, 1969).

School districts are local and significant funding contributors. As an example, the following table reveals the degree to which the New Mexico Junior College district contributed to the cost of its construction program:c)

| School | Local Funds | Federal and State Funds | Total |
|---|---|---|---|
| New Mexico Junior College | $254,765.42 | $267,751.00 | $522,516.42 |

The degree to which each post-secondary school district contributes to its operational and capital budgets varies with legal requirements and legislative responses. One school, El Rito, does not make any local monetary contribution.

FUNDING SOURCES FOR EXISTING AREA
VOCATIONAL SCHOOLS IN NEW MEXICO

| School | Local | BEF $300 FTE | State and Federal Voc. Reimbursement | State Legislature Appropriation | Other Federal | State Reimbursement Board of Voc. Education |
|---|---|---|---|---|---|---|
| Hobbs | X | X | X | | X | X |
| Roswell | X | X | X | | X | X |
| El Rito | X | | X | X | X | X |
| TVI | X | X | X | | X | X |

Source: Division of Vocational Education, State Department of Education

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c) "A Master Plan for the Development of Vocational-Technical Education in New Mexico." Sterling Institute, Washington, D. C., 1969.

## EMERGING AREA VOCATIONAL SCHOOL DEVELOPMENTS[d)]

Several of the post-secondary events which occurred late in 1969 should be noted:

1) An area vocational school program did start in the Farmington Branch of New Mexico State University in the Fall, 1969, semester.
2) Construction on the first building at Espanola Branch of El Rito Area Vocational School is expected to start very soon.
3) According to the Office of Economic Opportunity, the interim permit for the acquisition by the State of the land, buildings, and equipment at Camp Luna to establish an area vocational-technical school in Las Vegas has been approved. It is possible that a tentative operation may be started in 1969-70; a fullscale program may be in process by the Fall of 1971.
4) The State Board of Education is currently considering an application for a Grant County Area Vocational School.

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[d)] "Vocational Education in New Mexico," Materials prepared by Vocational-Technical Division, State Department of Education, Santa Fe, New Mexico, (November, 1969).

5) Several other area vocational school feasibility studies have been, or are to be, completed and the Vocational Division has established the following timetable for their development:

1970 - San Juan County

1971 - Grant County
- Rio Arriba County
- Santa Fe County
- San Miguel County

1974 - Valencia County
- Curry County
- Dona Ana County

6) At least one additional feasibility study is now being prepared:

- McKinley County

It should also be noted that reports of the Vocational-Technical Division of the State Department of Education revealed an increased activity in vocational-technical education inservice education, workshops, and institutes. A review of many recent reports confirms that the Division is becoming increasingly active and responsive to requests for assistance from related organizations and the State as a whole.

A composite view of the current area vocational schools situation is presented on the following map of New Mexico (see next page).

## PROJECTED VOCATIONAL EDUCATION DEVELOPMENTS

In the January, 1969, position paper, "A Master Plan for the Development of Vocational-Technical Education in New Mexico," a number of recommendations were presented as an effort to guide further state developments. Many of these relate to the educational programs of the four schools evaluated in this study. For review purposes these recommendations have been abstracted and included in this document.

1) Provide a meaningful alternative to the present college-oriented curriculum offered in most New Mexico secondary schools.
2) Provide at least two different types of vocational courses in every secondary school and revise state standards to include requirements for vocational education.
3) Modify the guidance function to include vocational guidance counselors and to improve occupational preparation understandings on the part of the students and general guidance counselors.

4) Improve and expand the area vocational school program so that it better meets the needs of high school youths, post-secondary youths and adults, unemployed youths and adults, employed youths and adults requiring updating, upgrading, and retraining, and youths and adults with specialized needs.

5) Develop area vocational schools so that they supplement, not duplicate, vocational-technical education offered in the high schools.

6) A priority listing for the location of vocational-technical training facilities was presented (see next page).

7) It was also recommended that further consideration be given to the establishment of job skill centers in Santa Fe, Taos, Grants, Gallup, Carlsbad, and Alamogordo.

Map of New Mexico Showing
Established and Proposed Area Vocational
Schools and Skill Centers

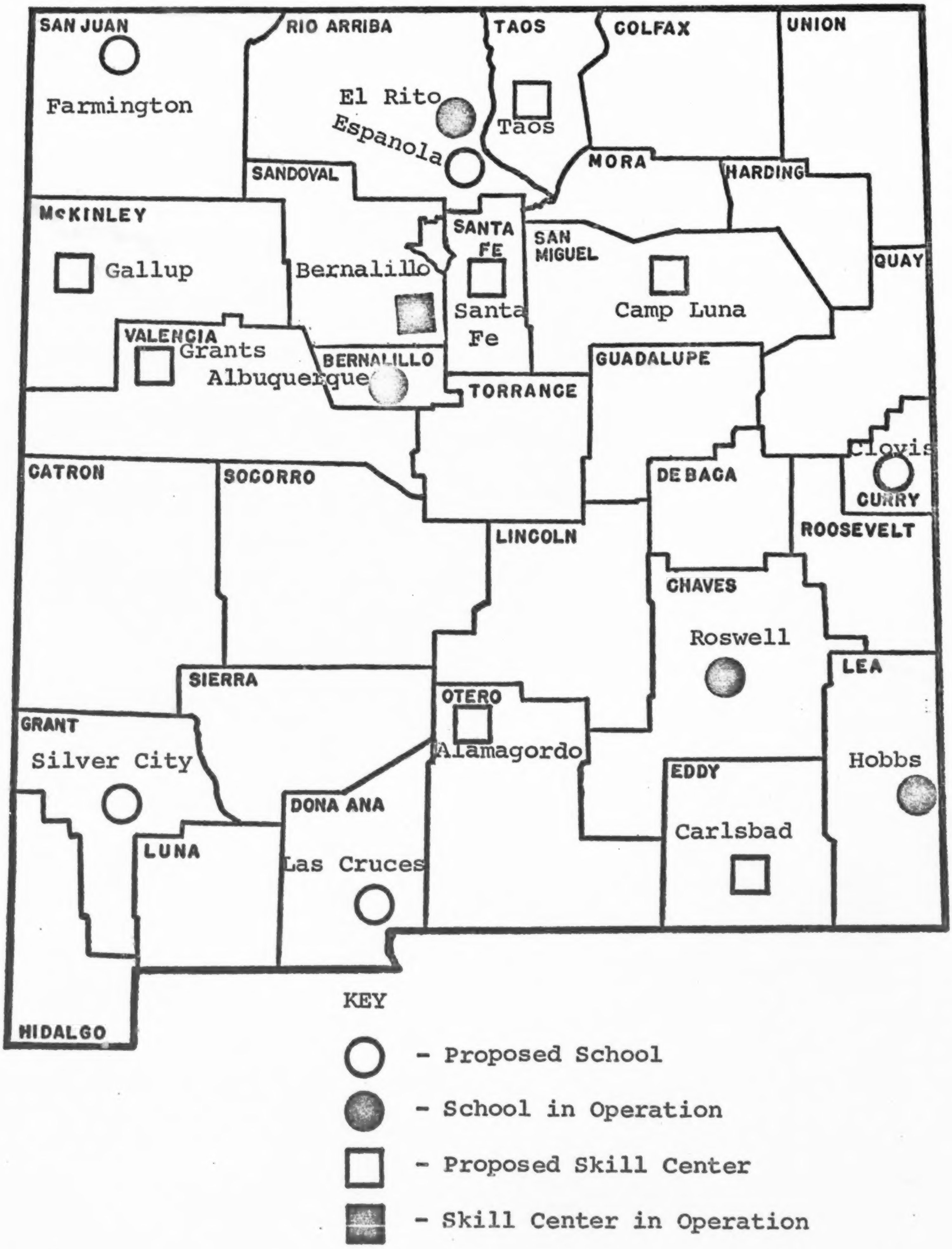
SAN JUAN
Farmington
RIO ARRIBA
El Rito
Espanola
TAOS
Taos
COLFAX
UNION
SANDOVAL
MORA
HARDING
McKINLEY
Gallup
Bernalillo
SANTA FE
Santa Fe
SAN MIGUEL
Camp Luna
QUAY
VALENCIA
Grants
BERNALILLO
Albuquerque
TORRANCE
GUADALUPE
CATRON
SOCORRO
DE BACA
Clovis
CURRY
ROOSEVELT
LINCOLN
CHAVES
Roswell
LEA
SIERRA
OTERO
Alamagordo
GRANT
Silver City
Hobbs
EDDY
Carlsbad
DONA ANA
Las Cruces
LUNA
HIDALGO
KEY
○ - Proposed School
● - School in Operation
☐ - Proposed Skill Center
▨ - Skill Center in Operation

FIGURE 2 . . . . . RECOMMENDED AREA VOCATIONAL SCHOOLS, TYPE OF SCHOOL, LOCATION, ORGANIZATIONAL AREA TO BE SERVED, RECOMMENDED PRIORITIES

| Type of School | Location | Organization | Area to be Served | Priority |
|---|---|---|---|---|
| A.V.S. | Espanola | Branch of El Rito | Rio Arriba County<br>Taos County<br>Los Alamos County | #1 |
| A.V.S. | Las Vegas | Public School or N.M.H.U. | Mora County<br>Guadalupe County<br>San Miguel County | #2 |
| A.V.S. | Farmington | Community College or Jr. College | San Juan County<br>McKinley County<br>Southern Colorado | #3 |
| A.V.S. | Silver City | Public Schools or N.M.W.U. | Grant County<br>Hidalgo County<br>Sierra County<br>Catron County | #4 |
| A.V.S. | Clovis | Community College or E.N.M.U. Branch | Curry County<br>Quay County<br>DeBaca County<br>Roosevelt County | #5 |
| A.V.S. | Las Cruces | N.M.S.U. | Dona Ana County<br>Luna County<br>Otero County<br>Eddy County | #6 |

8) The criteria developed by the Sterling Institute for establishing the location of future New Mexico area vocational schools was accepted:[e)]

a. Establishment of economic areas.
b. Related program emphasis.
c. Approval of program emphasis by State Board of Vocational Education.
d. Area considered must not overlap with areas already served.
e. The number of projected enrollment multiplied by funds committed must cover fixed and operating costs.
f. Local school districts to be served must agree to provide basic support funds for services rendered to secondary school students.
g. Area schools should be located in the larger population centers......

The legislature was urged to give consideration to developing legislation for providing agreements between New Mexico and Colorado for vocational-technical training.

9) It was recommended that the proposed area vocational school system be recognized as part of the total educational structure

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[e)] "A Master Plan for the Development of Vocational-Technical Education in New Mexico." Sterling Institute, Washington, D. C., 1969. (Final Report)

9) Continued

to make it a State responsibility; it was recommended that the State re-examine educational priorities in the total educational system; it was recommended that the State assume an equitable percentage of the facilities cost of each area vocational school; and, further, that the same allocation of Board of Educational Finance funds presently made to the Albuquerque Technical-Vocational Institute, New Mexico Junior College and the Roswell Branch of Eastern New Mexico University be also made available to other approved area vocational schools. (The estimated annual operational cost was stated at $1,050 per full-time student.)

10) It was recommended that the State Board of Education continue to serve in its present dual role as the New Mexico State Board of Education and the New Mexico Board of Vocational Education.

## CONCLUSION

The first two sections of this report have been included to present persons newly interested in New Mexico's vocational education program with an overview of both the State's "world of work" and the State's vocational-technical education organization as it has developed to date. Much of the data related to the four schools evaluated in this study has been omitted to keep this section of the report relatively brief, but the data is included in the next section. Numerous other documents should be read by the reader who desires to acquire a comprehensive view, and many of the pertinent documents have been referenced in this report. They are available both in the offices of the UNM Bureau of Educational Planning and Development and in the Vocational Division of the State Department of Education.

# CHAPTER IV

# PROGRAMS OF THE FOUR POST-SECONDARY VOCATIONAL SCHOOLS

## INTRODUCTION

This chapter is devoted exclusively to an evaluation presentation of the four New Mexico post-secondary vocational schools which have been operating long enough to undergo meaningful evaluation. The four schools are: 1) The Northern New Mexico State School at El Rito; 2) The Technical-Vocational Institute in Albuquerque; 3) The Eastern New Mexico University Branch Community College in Roswell; and 4) The New Mexico Junior College located in Hobbs.

Previous chapters depicted the state and national settings within which these educational programs operate. The responses which these four institutions are able to make to their respective social-economic environments are considerably influenced by the resources made available to them and to the abilities of the governing boards, employed faculties and staffs to utilize these resources in the most meaningful ways. In this chapter, the evaluators have identified those resources, inputs and outputs.

Although the legal, and to some extent the philosophical bases for the establishment and maintenance of each of these schools are different, all have been formally designated as "area vocational schools" by the State of New Mexico, and as such, they are the recipients of considerable Federal funding. These four schools have a series of distinguishing characteristics; some are commonly held and others are unique. Both characteristics are considered in the assessment presented in this chapter.

An evaluation team of four to six highly qualified persons toured each school, collected considerable data and materials, visited with teachers and administrators, and reviewed the self-evaluation studies which had been completed by the school staffs, faculties, and advisory bodies during the previous month. The materials collected included catalogs, budgets, annual reports, other pertinent studies and reports, and one of the just completed self-evaluation studies. All of this data is being retained in the Bureau's library for subsequent use in conducting studies, for review by representativies of other institutions, for use by UNM faculty members and graduate students studying vocational education, educational administration and educational planning, and for use in follow-up meetings with administrators of the four area vocational schools.

While analyzing the data presented in this chapter, readers are cautioned to remember that only the Northern New Mexico Vocational-Technical School and the Albuquerque Technical-Vocational Institute are purely vocational schools, both offering courses only for non-college credit. The other two schools, in addition to offering vocational programs, also offer general education programs of the more traditional community-junior college variety (for example, courses quite similar to those available at the University of New Mexico during the freshman and the sophomore years). Only a few of the vocational courses offered at the Roswell Branch Community College are offered for college credit, while all vocational courses offered at the New Mexico Junior College are for credit. Another point worth retaining throughout the reading of the chapter is that the costs associated with the programs of these latter two schools are difficult to ascertain accurately because the services of administrators, faculties, staffs, plant, support services, and so forth would have to be pro-rated. To do this accurately on each campus would require a study at least equal in size to this evaluation study. Thus, much of the data presented for these two institutions reflect total institutional figures.

In this evaluation report, post-secondary vocational education has been thought of as a portion of the state's total educational system although, in some ways, this unification has not been substantially accomplished. This view has been taken to lend support to what this evaluation indicates to be a desirable trend. The need for improved state funding and coordination with other educational institutions has been discussed elsewhere and is mentioned here to refresh each reader's knowledge of one of the complexities confronting the development of post-secondary vocational education in New Mexico. To reflect this state-wide, vocational education system's viewpoint, the authors have attempted to present sufficient data to identify each of the four schools as entities of the state-wide area vocational school system and to present sufficient other comparative data to recognize the functions of the four schools in the current state-wide system. (Farmington, because of its newness, was earlier excepted.)

The balance of this chapter contains two principal sections. In the first section, institutions are treated individually. Their programs and resources are described and a set of commendations/recommendations is included. The second section is a composite of comparative data covering the four schools.

## THE FOUR SCHOOLS

The Northern New Mexico Technical-Vocational School. The Northern New Mexico State Technical-Vocational School is located approximately 30 miles north of Espanola in El Rito, New Mexico, one of the poorest regions in New Mexico. It is situated in the foothills of El Rito Canyon on the southern edge of the Carson National Forest in Rio Arriba County. It is surrounded by open farm land, tree studded hills and magnificant mountains. The school provides vocational training and some related services to the inhabitants of the towns, villages, and rural sections of north central New Mexico.

The Northern New Mexico State School, the oldest of the four schools, was originally established by the State Constitution in 1909 as a Spanish-American training institute for teachers. Later it functioned as a high school and finally became a post-secondary area vocational school, The Northern New Mexico Technical-Vocational School, in 1964. By the spring of 1969 the secondary school program was completely phased out. The Northern New Mexico Technical-Vocational School expects to open a new (its first) branch in Espanola in the fall of 1970. Both campuses will offer non-college credit, post-secondary, vocational programs designed to lead to rapid employability. This will be the only area vocational school with a branch campus.

The El Rito campus is both a residential and a commuter school. The Espanola Branch will primarily enroll commuters, but students now in residence at El Rito will be able to enroll in the Espanola Branch. A small fleet of five school buses transports children to and from some of the towns, villages, and rural areas within daily commuting distances. Residential students may come from anywhere in the state.

The school plant can be reached on well-maintained, hard-surfaced roads. The plant is a mixture of new, old, and temporary facilities, including 13 school buildings and a number of residential facilities for staff. The campus-like appearance of El Rito lends a "homey", small college atmosphere to the school. Seventy-nine of the school's 105 acres are maintained as the school campus. The present facilities at El Rito are under-utilized and should, therefore, absorb a portion of the anticipated increase in statewide vocational enrollment, the number will depend upon the proportion of residentials to commuters. However, a combined total of several hundred head count could be added as soon as the Espanola Branch is put into operation. In the meantime, the El Rito School could accomodate well over a hundred additional students.

The facilities are reasonably well maintained by the students, through their workstudy programs, contributing significantly by performing daily chores.

The governing body of the school is a Board of Regents. The five members of this Board are appointed for 6-year terms by the Governor, by and with the consent of the State Senate. The board employs a superintendent as its chief administrative officer; he is supported by a very small administrative staff of three persons, including a business manager, a vocational director and a guidance director.

Students are admitted to the program of The Northern New Mexico State Technical-Vocational School upon presentation of a transcript indicating that the applicant has graduated from an accredited high school or has successfully passed the General Education Development test. Of the school's enrollment of 231, about one-third are boarding students who live in campus dormitories. The new Espanola Branch is expected to enroll an additional 250 to 300 students soon after it opens.

From the initial 1970-71 count of 400 students, more or less, the school's total enrollment should move up to 700 to 1,000 within a decade if the post-secondary vocational education movement continues to gain impetus and related funding.

While the average age of students was 25.6 years, the range, as of November, 1969, was from 18 to 52 years.

Approximately 100 of the students were participating in vocational work-study and cooperative-study programs (each work-study student may earn up to $600 per year from on-campus jobs). The student body includes 31 military service veterans, 60 Manpower Development Program training referrals, and 11 vocational rehabilitation referrals. The school reports a remarkably low drop out rate, approximately 4% at the present time.

The program of studies at this school is quite limited due primarily to the limited enrollment, the inability to get funding to open new programs, and other causes. Most of the courses offered are very practical and lead to direct employment. They are further discussed in the last section of this chapter.

The vocational-technical offerings of The Northern New Mexico Vocational-Technical School are presently grouped around ten specific vocational opportunities:

1. Auto-Body-Fender Repair
2. Auto Mechanic
3. Clerk-Steno
4. Clerk-Typist
5. Barbering
6. Cosmetology
7. Drafting
8. Nurses Aide
9. Construction and Maintenance Electricity
10. Electrical Appliance Repair

A set of course components has been developed for each program leading to the above occupations. Sometimes the requirements include more generalized topics such as health, human relations, and communications.

Each course has specific clock hour requirements ranging from 482 for Nurses Aide training to 2160 for auto-body-fender repairs, auto mechanic, drafting, and the electricity program.

As an example of course topic and clock hour requirements the Clerk-Steno program is outlined on the following page:

| Topic | | Clock Hours |
|---|---|---|
| Typewriting | | 200 |
| Recordkeeping | | 50 |
| Clerical Practice | | 100 |
| Business Telephone Practice | | 50 |
| Business Etiquette | | 50 |
| Filing | | 50 |
| Office Machine Operation | | 100 |
| Shorthand I & II | | 200 |
| Secretarial Practice | | 200 |
| Business Math | | 50 |
| Human Relations | | 50 |
| Health | | 50 |
| | Total | 1200 |

Due to its remoteness, the school necessarily operates a social-recreational program for both its residential and commuting students. Intramural sports, dances, movies, assemblies, and outdoor recreational activities are part of the limited program. A student union center provides a central social service program for the students. It appears quite obvious that this school's educational program can serve more young adults if the social-recreational program is further developed.

Within funding provisions, the school actively recruits, tests, and locates jobs for its students. The guidance director appeared to have a well organized and effective operation for such a small staff operation.

A recent graduate follow-up study provided clear evidence that the school was successful y helping many young adults. Between August, 1964 and May, 1967, 457 students certificates were awarded; of that number, 365 were employed in the area for which they had been trained, 26 were working in unrelated areas, 14 were pursuing a college education, 17 were in the armed forces, 14 were unemployed, and the whereabouts of 21 was unknown. If employed at an average of only $4,000 per year, the 365 who were employed in their area of training, would contribute $1,460,000 to the economy of New Mexico and release a large amount of welfare money for other state purposes.

The evaluation team which visited this Northern New Mexico Area Vocational-Technical School developed statements which commended the school for the work it was doing particularly well and also made recommendations for improving other segments of the operations where upgrading was obviously needed. The principle commendations and recommendations by the team are listed below:

A. Commendations:

1. This is a good school, one that is on the move, a school that is providing

essential services for a distinct population and area. The morale of the students and faculty is high, buildings and grounds are well maintained, and there is an apparent spirit of purpose and dedication.

2. All concerned are to be commended for their thorough self-evaluation study.
3. All programs were functioning well; the architectual drafting program was thought to be outstanding; the cosmetology program was well equipped and well organized; there was a good overall program in electricity; the nursing assistant program was excellent.
4. The guidance program policies were exceptionally well organized.
5. There was an obvious support and planning of course offerings.

6. There was a real concern for the people in the area served.
7. With the limited funds available, the school was rendering outstanding service to an area that badly needed such service.

B. Recommendations:

1. To attract more students, there should be more funds provided for telling the public about the school and its programs.
2. An additional counselor is needed to help with student recruitment, job placement and counseling.
3. The annual budget should be increased to expand services of the school to the surrounding economically depressed area.
4. The library needs modernizing and increased acquisition of equipment, materials, texts, and supplies.

5. Some additional steps should be taken to assure that students play a more active role in the formation of the rules and regulations which affect their lives.
6. There should be an extension and expansion of the summer program.
7. There should be a general clerk's course in business education.
8. The student activity program needs expansion. Many students live in the dormitories and it is many miles to the nearest town.
9. The auto mechanics program needs additional portable and stationary equipment. The auto body class should adopt a text book.
10. The barbering class needs additional storage space.
11. The cosmetology class needs additional storage space.

12. The architectural drawing program needs better lighting, an adjacent lecture classroom, a larger drafting room, office and supply rooms, better ventilation for the blueprinting machine, and additional drafting equipment.
13. The electricity classes need more current trade and industrial journals. There should also be an expansion of the program to teach industrial electricity. There are inadequate lab facilities and a need for more storage.
14. There is a lack of storage space for student projects in electricity, drafting, electrical appliance repair and automotive class areas.
15. There is a need for maintenance funds and maintenance workers to perform building and grounds maintenance tasks now performed by students.

A financial review revealed the following information.*

At The Northern New Mexico Vocational-Technical School income and expenditures for the past three years totaled:

| | Income | Expenditures |
|---|---|---|
| 1966-67 | $508,532 | $406,464 |
| 1967-68 (6/30) | 604,103 | 482,543 |
| 1968-69 (Op. Bud.) | 580,702 | 486,242 |

In 1968-69 the income was budgeted to come from:

| | | | |
|---|---|---|---|
| 1. | Student Fees | $15,900 | (2.7%) |
| 2. | Land Perm. Fund and Endow. Income | 9,000 | (1.5%) |
| 3. | State Appropriations | 453,000 | (78.0%) |
| 4. | Federal Grants and Payments | 94,602 | (16.3%) |
| 5. | Miscellaneous | 3,200 | (1.5%) |
| | | $580,702 | (100%) |

Taxes are not levied for the specific support of this school.

In 1968-69 money was budgeted for the following expenditures:

| | |
|---|---|
| Administrative and General | 17.3% |
| Instruction | 54.4% |
| Libraries | 1.8% |
| Physical Plant Operation and Maintenance | 26.5% |
| | 100.0% |

The cost to operate the physical plant is relatively high due to incomplete use of the facilities and because the school has residential students. All expenditures have remained, categorically, quite constant during the past several years.

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* The primary source of this data was the Board of Educational Finance's "Analysis of Budget Requests for the Biennium 1969-71"

Total annual expenditures per student rose from $1298.50 in 1966-67 to $1498.58 in 1967-68 and was budgeted to decline to $1421.76 in 1968-69. These unit costs approximate those of the main campus programs of all public college level institutions in New Mexico (1968-69: $1313.98-Op. Bud.) and are considerably more than unit costs for off-campus, college-level program averages which rose from $772.45 in 1966-67 to $906.18 in 1967-68 and to $994.53 in 1968-69. (They are projected to be $1054.97 by 1970-71; this is comparable to what post-secondary vocational annual student (FTE) costs are at the present.)

A small balance has been carried forward annually by the school, generally about $20,000.00.

New Mexico Junior College. The New Mexico Junior College at Hobbs is a unique institution of higher learning for the State of New Mexico in that it is the State's first comprehensive junior college. It was planned and promoted by local citizens with wide community support. Located on a new site with all new buildings and facilities, it employs a totally new faculty and staff. The college has local administration and control. Since being established in 1965, the major focus has been on meeting the needs of the citizens of the area. It started its first year of operation in September, 1966, with 728 students (FTE). Its legal basis for establishment was the 1963 Junior College Act.

The college is located on a beautiful 50 acre campus, three miles northwest of Hobbs and 16 miles southeast of Lovington on State Highway 18, in Lea County, the leading oil and gas producing county in the United States. The College owns a total of 278 acres of land.

The College district is composed of the public school districts of Hobbs, Lovington, Eunice, and Tatum.

The governing board of the New Mexico Junior College consists of five members elected from the district. The Board employs a president as its chief administrative officer. He is supported by a small administrative staff.

The school now has all of the elements normally found in the composition of a small junior college with the exception of boarding facilities (they are prohibited by the Junior College Act under which the college was legally established). The school is currently conducting a self-study for accreditation for admission to the North Central Association of Secondary Schools, Commission on Colleges and Universities.

The purposes of this junior college are to provide instruction in programs which can be transferred to 4-year colleges and universities; to provide terminal vocational-technical programs of varying lengths; to provide general education courses for all students; to provide continuing education for updating and upgrading skills and knowledges; and to serve community social and economic interests and needs.

The program of this college is unique in that there is complete instructional and student mobility within and between the four divisions: 1) arts, business and humanities, 2) science, math, and engineering, 3) education and psychology, and 4) vocational-technical. The evening college is a continuation of the normal day operation. The college provides facilities for extension classes; these may be offered by any regionally accredited senior institution. The New Mexico Junior College confers the Associate in Arts Degree, the Associate in Science Degree, and the Associate in Applied Science Degree.

The vocational-technical education activities of the New Mexico Junior College contain nine programs according to the 1969-70 course catalog:

1. Electronic Technology
2. Data Processing Technology
3. Drafting Technology
4. Secretarial Service
5. Middle Management
6. Automotive
7. Machine Tool Technology
8. Welding
9. Practical Nursing

The first three programs listed are as technical education programs and the last three as vocational programs. To successively complete any of the above nine programs, students must complete a series of predetermined courses. As an example of the course requirements in one of these programs, the Middle Management Program is outlined below:

MIDDLE MANAGEMENT PROGRAM COURSE

Requirements

1. Middle Management #112 (Personnel and Occupational Guidance)
2. Middle Management #113 (Fundamentals of Salesmanship)
3. Middle Management #123 (Retail Merchandizing)
4. Middle Management #123A (Business Organization)
5. Middle Management #213 (Principles of Advertising)
6. Middle Management #213A (Introduction to Retailing)
7. Middle Management #213B (Principles of Marketing)
8. Middle Management #223 (Principles of Management)
9. Middle Management #223A (Principles of Finances)
10. Middle Management #223B (Human Relations)

The visiting team members indicated the following strengths of the college, and made the commendations and recommendations which follow:

A. Commendations:

1. The community has done an excellent job of studying its needs, initiating the college as part of its total educational offerings, and in establishing and operating the school during the past three years.
2. The basic statement of philosophy and objectives is specific and sound; serious effort should be continued to implement it.
3. The college faculty and administrators are well qualified and are attempting to carry out the original objectives set forth for the college.
4. The plant and facilities are carefully planned, of excellent quality, and should serve present and projected needs.

5. Studies have been carefully made to determine the curriculum and courses most needed to meet community and individual student needs.
6. The faculty and administrators should be commended for striving to improve the "image" of vocational and technical education. Equal status is being provided for academic and occupational education on this campus.
7. The faculty and administrators are attempting to provide quality programs in addition to building increased enrollments; they are anxious to serve more community and individual needs.
8. The staff should be commended for its very intensive and complete self-evaluation reports.

B. Recommendations:

1. The local Board, administrators and staff should be encouraged to continue all efforts to build a program which meets the needs of the local area primarily being served. However, they should also consider the school to be a part of the total statewide system of post-secondary schools and colleges and continue to cooperate with state agencies in planning and coordinating further developments to meet all such needs.
2. The school's philosophy should constantly be examined and every effort made to implement the vocational-technical objectives which will most nearly meet the occupational needs of the area and state. It appeared to the writing committee that more

emphasis may correctly be placed on college transfer programs than into courses and programs preparing students for the world of work.

3. Information about the vocational and technical offerings should be disseminated by additional means and media. This effort should take counselors into feeder schools, and increase the contacts with representatives of business and industry in an effort to continue to improve the "image" of vocational education and enrollments in classes. Facilities are now available to serve more students, both full time and part time enrollees.
4. A careful study needs to be made regarding the policy of "mixing" some students in classes for non-college credit with others in the two-year college degree programs.

It also appeared to the team that provisions for job entry level, non-degree classes should be expanded. Such offerings should also be carefully coordinated and supplement those available in the public schools and other educational agencies in the area. Curriculum efforts are centered more upon developing two year junior college degree programs than on post-secondary, non-college credit offerings; this is in line with their emphasis on developing a strong, comprehensive junior college.

5. Increased efforts to establish cooperative part-time school and work programs should be made in the occupational areas where students can be readily placed in cooperating work stations. Included are the clerical office,

secretarial, industrial, merchandising and marketing, data processing, and health occupations. Such programs with coordinator-teachers in charge will help bring the vocational-technical school programs closer to the businesses of the community.

A financial review revealed the following data.[2]

Income and expenditures for the past three years totaled:

| | Income | Expenditures |
|---|---|---|
| 1966-67 | $ 606,640 | $431,570 |
| 1967-68 (6/30) | 832,138 | 721,524 |
| 1968-69 (Op. Bud.) | 1,110,561 | 952,200 |

In 1968-69 the income was budgeted to come from:

| | | | |
|---|---|---|---|
| 1. | Student Fees | $ 152,235 | (13.7%) |
| 2. | Local Tax Levy | 654,615 | (59.9%) |
| 3. | State Appropriation | 232,311 | (20.9%) |
| 4. | Federal Grants and Payments | 58,000 | ( 5.2%) |
| 5. | Miscellaneous | 13,400 | ( 2.1%) |
| | | $1,110,561 | |

In 1968-69 money was budgeted for the following expenditures:

| | | |
|---|---|---|
| 1. | Administration and General | (18.4%) |
| 2. | Instruction | (56.7%) |
| 3. | Libraries | (10.0%) |
| 4. | Physical Plant Operation and Maintenance | (14.8%) |

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[2] The Primary source of this data was the Board of Educational Finance's "Analysis of Budget Requests for the Biennium 1969-71."

Expenditures for the three years 1966 through 1969 indicate an approximate 20 per cent reduction in Administration and General costs and an approximate 20 per cent increase in the costs of Libraries. Other expenditures remained relatively equal.

Total annual expenditures per student, over the same three year period rose continuously from $916.29 to $1,157.29.

The New Mexico Junior College carried a balance forward at the end of each of the last three years in the amount of:

| | |
|---|---|
| 1966-67 | $200,150 |
| 1967-68 | 276,420 |
| 1968-69 (Op. Bud.) | 223,361 |

The tax base of the College district is in excess of $200,000,000. A three mill local tax is now levied; the law allows a five mill levy with voter approval.

Technical-Vocational Institute (TVI). The Albuquerque located Technical-Vocational Institute primarily provides education at the post-high school level, but high school dropouts meeting specified conditions may also enroll. Established like the New Mexico Junior College by a vote of the people, but under other enabling legistlation, TVI was created in 1964 to meet the needs of the Albuquerque region.

The Institute is located on a seven acre site in the southeast quadrant of Albuquerque. An additional 28 acres is available for future expansion. Thirteen of the present 16 buildings are of a temporary nature, but the school has a master plan for replacement of these temporaries with functional new facilities. It is served by an excellent highway system.

The Technical-Vocational Institute professes two basic objectives: 1) to develop the enrollees' job skills to an employable and productive job-entry level, and 2) to enable students to upgrade skills which will lead to job advancement. The school operates a "technologies preparatory program" for students needing pre-vocational experiences prior to entering vocational course work, as well as a large number of programs at the vocational level.

The governing board is a five member unit composed of the members of the Albuquerque Public School Board of Education. The Superintendent of Public Schools serves as President of TVI. The Board employs a Vice-President as its chief administrative officer. Although the enrollment district of TVI is the area of the public school system of Albuquerque, many students from other parts of the State do attend. These students live in non-TVI facilities in

Albuquerque, or they commute daily from their place of residence. The State has recently begun to recognize this fact, and has been thoughtful in appropriating funds for part of TVI's operation since 1968.

The school operates an evening program both in the TVI plant and in six Albuquerque high schools. It also operates a summer program.

The 1969-70 course catalog of TVI lists thirteen educational programs as being actively offered:

1. Technologies Preparatory
2. Accounting
3. Automotive Collision Repair
4. Automotive Mechanics
5. Data Processing
6. Distributive Education (Sales)
7. Drafting Technology
8. Electronics Technology
9. Practical Nursing
10. Hospital Aides
11. Machine Trades
12. Office Education
13. Welding

The above programs are offered for varying lengths of time--from 10 weeks (practical nursing) to five trimesters (data processing). Each program is organized into a series of specialized and generalized topics. New students who are not ready to enter one of the pure vocational programs first enter the Technologies Preparatory program.

Several of the more predominant features of TVI include:

1. It has the largest student body of all four schools; its annual enrollment has grown rapidly and is now almost twice the combined total of the other three area vocational schools.
2. Being located in the largest city of the State, a city with one-third of the State's total population, TVI has far more immediate employment opportunities available in its immediate surroundings than do the other three schools.
3. The school offers only non-high school, non-college credit courses and programs; some of its industrial programs are offered in the evening in several of the high schools of Albuquerque due to over crowding on its central campus.
4. TVI has a long-range developmental program which has been created with

considerable citizenry assistance. The school has not been able to develop its physical plant fast enough to keep up to enrollment increases due to a shortage of construction and equipment monies.

The visiting evaluation committee's commendations and recommendations for TVI were many and meaningful.

A. Commendations:

1. The staff members are well qualified, dedicated and imbued with a strong vocational philosophy and desire to assist students from all social, cultural and economic backgrounds.
2. The program and school have made much progress since the start in 1963. The school was started from "scratch" with no funds, laws to support, facilities, staff, curriculum or other factors.
3. The program has been carefully developed with heavy community

support. Surveys of the students and their occupational needs were made and curriculum and programs developed to meet these needs.

4. Continuing advisory committees are used extensively in the trades and technical programs. Business and industrial representatives have been most helpful in the further development of programs.
5. The basic philosophy of the school is very specific, sound, and definitely oriented to help the individual with preparation for gainful employment.
6. The school has set aside a special fund for new classes and programs which should contribute to the economic and social development of the State and community.
7. Staff morale appears to be excellent.

8. The physical facility is utilized to a maximum with classes running from 8:00 A.M. to 10:00 P.M.

B. Recommendations:

1. The efforts presently being initiated to better coordinate curriculum planning and development with the senior high schools of the area should be continued. Additional exploratory, introductory classes could be taught in the high schools and articulated with advanced work available at TVI.
2. The building program should be developed as fast as monetarily feasible in order to more fully serve the students and community needs, social and economical.
3. Additional cooperative, part-time programs should be initiated and developed in curriculum areas other than distributive education. Such programs could be justified and

successful in the clerical-office occupations, the trades, service jobs, health occupations and other technical areas.

4. Every effort should be made to help improve the image of vocational and technical education with employers, students and the lay public.
5. Additional in-service teacher education efforts should be made to assist both the day and evening division faculty members. Improved instructional methods and wider use of all types of instructional materials and aids would be helpful.
6. A school-wide, media center with library and audio visual aids readily available for faculty and students would be very helpful and could improve the quality of instruction. A professional librarian and/or media person should be added to the staff to assist in planning and developing of this area.

7. Many excellent night section classes appear to be operating and such should be encouraged and further developed to meet specific job training needs. A coordinated effort of these night offerings should be made with the day division to the extent feasible.
8. The assistant principals need additional staff assistance to permit them to engage more fully in program and curriculum development.
9. The salary scale for Evening Division instructors is not competitive with adult education programs in the city and is not high enough to attract the best qualified instructors available.
10. TVI faculty members need released time for study to keep their certification current and to upgrade their skills.

The financial affairs of TVI are reported in a different state office publication3) than the other three institutions evaluated in this study. The latest of these publications reported data for different years and in different categories than were reported for the others. Although these data are perfectly clear, the terminology utilized and the reported details are different.

The report covered only the 1967-68 and 1968-69 years. Income by source, reported for these two years (including cash balance) was:

| | 1967-68 | 1968-69 |
|---|---|---|
| Cash Balance | $ 63,778 | $ 182,992 |
| Revenue - Local | 612,360 | 989,104 |
| Reimbursements | 391,567 | |
| Revenue - Federal | | 225,000 |
| Revenue from Contracts | 151,422 | |
| Revenue - State | | 315,600 |
| Non-Revenue | 845,291 | |
| | $2,064,418 | $1,712,696 |

TVI's income structure varies more than the other schools due to the size of its operation, contract training, specialized funding efforts and in the current year reassessment.

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3) "Public School Finance Division's Statistics for 1967-68".

Roswell Branch Community College. The Roswell Branch Community College, established in 1958 under the Branch Community College Statute, has Eastern New Mexico University as its "parent institution" and, therefore, the governing board is legally the Board of Regents of Eastern New Mexico University. The Board of Directors of the Roswell Branch Community College, by law, serves in an advisory capacity. The governing board employs a dean as its chief administrative officer; he has a small staff to assist him.

The school is located in south central New Mexico in the town of Roswell, in Chavez county. The school, which was initially located in temporary quarters, is now housed on 225 acres of the former Roswell Air Force Base. The college district purchased this property, including 65 buildings, in 1967.

Because the college has considerable residential facilities, it hopes to serve a much wider area than its immediate enrollment district. The five school districts located in the Roswell Branch Community College District are all in Chavez County. They are: 1) Roswell Municipal, 2) Chavez County, 3) Dexter Municipal, 4) Haggerman Municipal, and 5) Lake Arthur Municipal.

The College offers both 2-year college level credit programs and non-college credit programs. The programs vary in length from short, intensified periods to two years. Most of the vocational programs are offered for other than college credit.

The vocational-technical courses offered by Roswell Branch Community College are nine in number:

1. Air Conditioning and Refrigeration
2. Aircraft Mechanics
3. Auto Body and Fender Repair
4. Auto Mechanics
5. Electrician Technician
6. Welding
7. Nursing (Associate Degree)
8. Nursing Assistant
9. Dental Assistant

Only the Nursing Associate degree and dental assistant programs specify in the 1969-70 catalog that specific college credit courses will be taken by students enrolled, but all of the other programs do detail the topics which will be coveed in each program. The length of time it takes to complete the program ranges from a minimum of sixteen weeks for the Nursing Assistant Program to two years for the Associate Degree Nursing Program.

Also located in the immediate area of the campus is an operation of the Bureau of Indian Affairs, the Municipal

Airport and some military air base operations. The area suffered a severe economic setback in December 1965 when Roswell Air Base was deactivated, but it now appears to be regaining its economic composure. The immediate area has a population of over 50,000 persons.

The school has shown a slow, steady growth in enrollment but still has considerable unused or lightly used space, both residential and academic. The present facilities would probably permit a doubling of the student body, but more faculty would be required. Like the other schools examined in this study, it is probable that there are too many part-time members on the faculty (9 out of 30), but those faculty members who were observed teaching, as in the other three schools, appeared to be fairly competent instructors.

The average age of students for the school is not known, although statistics were available on the average age of students by course groupings. The average age ranged from 18 for dental assistant students to 30 for watch repair students. Most of the students are New Mexico residents.

As an illustration of the impact that vocational education is having upon the youth of the state, the results of a follow-up study concerning the graduates of an "Airframe and Power Plant Mechanics" course was reviewed. Thirteen of the 15 enrolled graduated in the first class. Four went to work in Roswell, 2 in Albuquerque, 1 in Santa Fe, 3 in Houston, and 1 in Dallas, 2 went into military service and 1 is self employed in Lovington. Fourteen of the 15 are working in the aviation field.

The graduates of a "Refrigeration and Air Conditioning" course were also analyzed. Six of the 8 enrolled graduated in the first class. One is doing refrigeration work for the U. S. Navy, 1 is doing refrigeration work in Greeley, Colorado, 3 are doing refrigeration work in Hobbs, Portales, and Roswell, and 1 of the 6 is not working in the field for which he was trained.

The visitation committee developed several commendations and recommendations concerning the Roswell Branch Community College program:

A. Commendations:

1. The school staff faculty are dedicated, interested in helping students, appear to be well qualified for their positions, have a strong desire to further meet the

needs of the community and state and build a quality program. Continued efforts in this direction are being made even in the face of limited financial support, an economically depressed area and limited job opportunities during the past several years.

2. The school plant facilities taken over from the Air Force have great potential for continued expansion and development, including some vocational and technical programs. Many buildings are still unused and with slight alterations could be made into good campus spaces.
3. Some program plans and projections have been made on sound occupational and community surveys of future needs and job opportunities. Several new classes and programs have been added each year.

4. The general student appearance, behavior, self direction and control and adjustment appear to be excellent. Reports indicate that students enroll with a desire to gain an education and want to either complete a vocational and terminal program or transfer to a four year baccalaureate program. Student government is operating and staff members are listening to the needs of those enrolled.
5. The school philosophy is clear with the two broad objectives in evidence: (1) vocational-technical terminal education and (2) college transfer education.
6. The products (students) of the vocational technical courses and programs appear to find employment readily.

B. Recommendations:

1. The school needs a better base for financial support. Perhaps some way could be found to increase local community support which is now set at a one mill levy.
2. All persons in the school and others in the community should help to inform the public about the educational opportunities available at the school. These efforts should be concentrated on improving the "image" of vocational and technical education and enrolling those students who can most benefit from it.
3. Additional efforts should be made to coordinate the vocational programs of the public schools in the college district with those of the branch college. Long range planning should include pre-vocational programs below the high school level.

4. Serious efforts should be made to recruit and enroll more students. Such increases could improve the cost per student factor.
5. Curriculum planners should consider more programs for mid-management and supervisory positions.
6. Some feeling was experienced that the academic and vocational-technical programs and staffs were not very well coordinated and that communication between the two was somewhat limited. All of these persons should be made to feel that they are a part of one institution.
7. This community could support and should have more cooperative part-time type programs in such areas as office and secretarial, marketing and merchandising, trades, health and other occupations.

8. With a seemingly greater job market potential, "parent university" officials should consider the possible transfer of Portales vocational-technical education classes and programs, including teacher-education, from Portales to the Roswell Branch Community College campus.

A financial review of the Roswell Branch situation revealed the following data.4)

Income and expenditures for the past three years totaled:

| | Income | Expenditures |
|---|---|---|
| 1966-67 | $ 357,073 | $ 327,073 |
| 1967-68 (6/30) | 592,385 | 666,833 |
| 1968-69 (Op. Bud.) | 640,000 | 677,600 |

In 1968-69 the income was budgeted to come from the following sources:

| | | | |
|---|---|---|---|
| 1. | Student fees | $ 150,000 | (23.4%) |
| 2. | State Appropriations | 252,000 | (39.4%) |
| 3. | Federal Grants | 145,000 | (22.7%) |
| 4. | Miscellanecus | 93,000* | (14.5%) |
| | | $ 640,000 | |

* Includes Local Levy

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4) Primary source of data: The Board of Educational Finance's "Analysis of Budget Requests for the Biennium 1969-71."

The 1968-69 money was budgeted for:

| | |
|---|---|
| Administration and General | 18.0% |
| Instruction | 53.1% |
| Libraries | 5.5% |
| Physical Plant Operation and Maintenance | 23.4% |

These expenditures reflect a rather high percentage of expenditures going to plant expense and a corresponding lower rate going to support instruction. This appears to be a direct result of operating the oversized plant--oversized for its present student program and student population. A slightly improved picture has been projected for the current and future years.

Total annual expenditures per student, over the same three year period, rose from $1,127.83 in 1966-67, to $1,310.08 in 1967-68 and was budgeted at $996.47 by the institution and $1,342.75 by the BEF for 1968-69.

The expenditures pattern for the year 1967-68 compared with the year 1968-69 reveals some of the areas of apparent changing emphasis:

| | 1967-68 | 1968-69 |
|---|---|---|
| Administration | $ 46,958 | $ 85,611 |
| Support Services | 55,755 | 76,485 |
| Program Development | 47,616 | 56,457 |
| Instructional Programs | 896,463 | 904,518 |
| Pupil Personnel | 64,713 | 122,921 |
| Operation of Plant | 44,846 | 66,583 |
| Maintenance of Plant | 13,977 | 15,000 |
| New Industry Programs | 0 | 100,000 |
| Capital Outlay | 147,547 | 0 |
| Repayment of Loan | 300,000 | 200,000 |
| Investment | 343,997 | 0 |
| Miscellaneous | 9,604 | 0 |
| | $1,971,476 | $1,627,575 |
| Unbudgeted | | 85,121 |
| Total | | $1,712,696 |

The latest program to be funded is the new industry program which enables TVI to work closely with new industry in training the unemployed and underemployed for specific industrial jobs. It also helps to attract new industry to New Mexico. As is revealed by the above figures, capital outlay is being financed by current income to a substantial degree at TVI. As income in greatly increased due to reassessment, and as enrollments continue to grow, the level of spending for most expenditure categories is likely to rise, as it did in 1968-69 (see above). This latter difference reflected a lower enrollment estimate (531) by BEF than that made by the institution (680).

The Roswell Branch Community College has been successful in developing a financial situation which enables it to carry forward an annual balance.

## COMPARATIVE DATA ON THE FOUR SCHOOLS

It is difficult to meaningfully compare these four schools, because they are quite different in many ways. Their specific educational objectives vary. Each school serves different populations and reaches into different labor markets; different laws govern each institution's income sources; each is in a different transitional state of growth; the physical plants of each vary greatly in condition, age, size, and utilization. They are guided and directed by different board members and administrators. They offer different program combinations; two of the schools do not grant college credit; the others do, but not to the same extent or with the same philosophy. One school finances much of it's construction from operating income; three schools levy direct taxes, and one cannot levy any tax. These represent essential variations, and suggest that institutional comparisons be interpreted with caution.

The fact that each of the four schools is different certainly complicates statewide funding as well as coordination and administration, but many of their differences can also be thought of as strengths. One such strength is the opportunity for potential students who are not satisfied with the program, personnel, or facilities at one school to seek satisfaction in one of the other schools.

Despite the numerous important factors which make each of these four schools different from the remaining three, there are some significant commonalities which thread through the four schools. Their broad educational purposes are quite similar--they seek to reach post-secondary learners and to place emphasis on vocational education which leads to gainful employment. Many of their vocational programs are similar in terms of content, staffing and process. And they all predominantly serve a somewhat similar student body, the members of which come almost entirely from the same state, New Mexico.

Unfortunately, the latest official figures which will soon be available to the Legislature and to the State Department of Education concerning these schools (The 1968-69 Public Finance Division Statistics and The 1970-71 BEF Budget Analysis) will be published after this document has been released and, therefore, 1968-69 financial and enrollment figures were the latest official data that could be reported in this document. Data for 1969-70 were only utilized when its authenticity could be confirmed.

Five data comparisons are presented in the balance of this chapter: 1) enrollment, 2) staffing, 3) educational programs, 4) finances, and 5) a general data summary.

Enrollment Data. Post-secondary level enrollments have been increasing rapidly. The Division of Vocational Education's Research Coordinating Unit recently reported the following growth figures:5)

| For The School Year Ending | Post-Secondary Enrollment |
|---|---|
| 1967 | 1288 |
| 1968 | 4246 |
| 1969 | 5404 |
| 1970 (Est.) | 6415 |

Thus, there has been a four-fold increase between 1967 and 1969. The 1968-69 distribution of students in post-secondary vocational programs was recently reported in another paper:6)

| | |
|---|---|
| Agriculture | 32 |
| Distributive Education | 60 |
| Health Education | 627 |
| Office Education | 2,939 |
| Technical | 1,295 |
| Trade and Industry | 451 |
| Total | 5,404 |

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5) "Report to State Superintendent of Public Instruction," December 1, 1968 - November 30, 1969. Research Coordinating Unit, Vocational Educational Services, State Department of Education, Santa Fe, New Mexico.

6) "Vocational Education in New Mexico." A paper by the Vocational Division, State Department of Education. Santa Fe, New Mexico. November 1969.

Clearly, office education and technical education are the two programs in which over eighty percent of the students are now enrolled. A check of the enrollment of the four area schools evaluated in this study revealed that every one of them is going through a growth period.

Of the 5,404 students enrolled in post-secondary vocational schools in New Mexico in 1968-69, 4,374 were enrolled in the four schools evaluated in this study. The enrollment of each school in 1966-67 as compared to 1968-69 was:

| | 1966-67 | | 1968-69 | |
|---|---|---|---|---|
| | Total | Voc-Tech | Total | Voc-Tech |
| TVI | 3147 | 3147 | 3760 | 3760 |
| Hobbs | 471 | Not avail. | 787 | 150 |
| Roswell | 290 | Not avail. | 776 | 258 |
| El Rito | 313 | 134 | 301 | 206 |
| Totals: | 4221 | 3281 | 5624 | 4374 |

This growth from 3,281 F.T.E. vocational students in 1966-67 to 4,374 F.T.E. vocational students in 1968-69 represents a thrity-three percent increase in just a two year span. It also shows that each institution is increasing at a reasonable rate in relationship to the characteristics of its enrollment area.

The fact that these institutions are doing so well so rapidly in enrolling students is a tribute to their supporters and to their staffs, and it clearly evidences the need exists for post-secondary vocational education opportunities. The large number of the State's citizens who desire post-secondary vocational training is becoming increasingly obvious. At TVI alone, 10,780 students have been enrolled in the Day Division and 23,650 in the Evening Division since 1965. The vocational educational enrollments of all of the schools, excepting TVI, have been too small to justify their long-term continuation purely from the vocational enrollment viewpoint, but conditions are improving. The chief reasons for continuing to support and to expand these vocational post-secondary schools are: 1) their high degree of job placement success, 2) their enrollments are rapidly growing, 3) schools like Hobbs and Roswell are combining academic and vocational programs on the same campus to give students a broader educational selection and to develop campus enrollments which can be economically serviced.

As the overall image of vocational education continues to improve, as recruitment programs are strengthened and expanded, and as new facilities and programs are opened, vocational enrollments can be expected to continue to rise. Because there is so little experience on which to base projections, it is impossible to project with any certainty what the vocational enrollments should become. But it seems reasonable to approximate that secondary vocational schools at any one time should range between one and two per cent of the total population. This would provide a statewide post-secondary vocational enrollment of 10,000 to 20,000 students, two to three times the present enrollment level. Should the State elect to seek this enrollment level as a goal, it should be possible to attain it within a few years. At the present only 10.8 per cent of the population ages 15-24 are enrolled in post-secondary vocational education programs. About fifty per cent of the State's high school graduates do not go on to college (with three-fourths of those who do start not finishing college). It seems logical to assume that with some effort at least 20 to 30 percent of this 15-24 age group could--and should--be attending post-secondary, vocational-technical education programs. In fact, there is good reason to believe that if many of this age group are not attracted to utilizing their leisure time in post-secondary vocational schools, they will become an expensive force for all of us to support for a long time in the future--whether they stay in this state or go to another one. And quite possibly, they may soon become a socially disruptive force. People like to occupy their time doing worthwhile activities. Looking for non-existent jobs is not profitable nor enjoyable; getting trained for a job can be.

Each of the four institutions appears to have a rather distinct potential for continued growth. TVI is in an urban location where as many as two to four times more students can be expected to enroll as the physical plant grows, new programs are introduced and its overall image continues to improve. El Rito may more than double its enrollment when the Espanola Branch opens a year or two hence and as its transportation system attracts more commuting students from the growing populations of Espanola, Los Alamos, Santa Fe, and Pojoaque. The potential for growth at Roswell rests in the immediate availability of residential and instructional plant space, in an expanding and relevant program, and as at all three of the other institutions, in aggressive leadership. The unique nature of its organization and program, as well as its geographical location, should help to insure the growth of the New Mexico Junior College.

Staffing Data. The four schools employ a total of 377 faculty and staff members at the present. Over sixty per cent (239) of this number occupy professional level positions. (Note: Both the Hobbs and the Roswell staffs listed in this chart contain persons who teach non-vocational courses.) It is interesting to note that one of the schools (TVI) has started to use instructional aides. Colleges have long been doing this, calling them graduate assistants, and elementary and secondary schools have been doing it for over a decade. It is a profitable technique for getting the maximum production from post-secondary professional staff members.

The following chart shows the current staff personnel in each of the four schools:

STAFFING - 1968-1969
(Number of Full-Time and Part-Time Personnel)

| | TVI | El Rito | Hobbs | Roswell | Total |
|---|---|---|---|---|---|
| A. Professional Staff: | | | | | |
| Administration | 11 | 6 | 8 | 10 | 35 |
| Instructional | 74 | 13 | 44 | 55 | 186 |
| Library | 0 | 1 | 0 | 1 | 2 |
| Guidance | 8 | 1 | 2 | 3 | 14 |
| Other | 1 | 1 | 0 | 0 | 2 |
| Sub-Total: | 94 | 22 | 54 | 69 | 239 |
| B. Supporting Staff: | | | | | |
| Instructional Aides | 6 | 0 | 0 | 0 | 6 |
| Secretarial/Clerical | 27 | 4 | 18 | 13 | 62 |
| Physical Plant and Transportation | 13 | 10 | 16 | 20 | 59 |
| Other | 0 | 11 | 0 | 0 | 11 |
| Sub-Total: | 46 | 25 | 34 | 33 | 138 |
| Grand Total: | 140 | 47 | 88 | 102 | 377 |

Source: Abstracted from the Assessment and Evaluation Study Workbooks completed by the four schools.

Vocational-Technical Programs and Courses. An analysis of the 1969-70 catalogs of the four schools revealed that a total of 41 educational programs are being offered. Several of the programs are very similar, as the automotive field, but each has different content requirements based on the specific purposes for which each school has designed its particular programs. The following chart is a comparison of the programs offered in the four schools:

VOCATIONAL-TECHNICAL PROGRAMS
OFFERED AT THE FOUR SCHOOLS
(SOURCE 1969-70 COURSE CATALOG OF EACH SCHOOL)

| Program | El Rito | Roswell | Hobbs | TVI | Total No. of Programs | No. of Similar Programs |
|---|---|---|---|---|---|---|
| 1. Accounting | | | | X | 1 | 1 |
| 2. Air Conditioning & Refrigeration | | X | | | 1 | 1 |
| 3. Aircraft Mechanics | | X | | | 1 | 1 |
| 4. Autobody-Fender Repair Technology | X | X | | | 2 | 7 |
| 5. Auto Mechanics Technology | X | | | | 1 | |
| 6. Automotive | | | X | | 1 | |
| 7. Automotive Collision Repair | | | | X | 1 | |
| 8. Automotive Mechanics | | X | | X | 2 | |

### VOCATIONAL-TECHNICAL PROGRAMS
### OFFERED AT THE FOUR SCHOOLS
### (SOURCE 1969-70 COURSE CATALOG OF EACH SCHOOL)

| Program | El Rito | Roswell | Hobbs | TVI | Total No. of Programs | No. of Similar Programs |
|---|---|---|---|---|---|---|
| 9. Office Education | | | | X | 1 ) | |
| 10. Secretarial Science | | | X | | 1 ) | |
| 11. Clerk-Steno | X | | | | 1 ) | 4 |
| 12. Clerk-Typist | X | | | | 1 ) | |
| 13. Cosmetology | X | | | | 1 ) | |
| 14. Barbering | X | | | | 1 ) | 2 |
| 15. Data Processing | | | | X | 1 ) | |
| 16. Data Processing Technology | | | X | | 1 ) | 2 |
| 17. Distributive Education (Sales) | | | | X | 1 | 1 |
| 18. Drafting Technology | X | | X | X | 3 | 1 |
| 19. Electrical Appliance Repair Technology | X | | | | 1 ) | |
| 20. Electricity Program (Const. & Maintenance) | X | | | | 1 ) | 2 |
| 21. Electronic Technician | | X | | | 1 ) | |
| 22. Electronics Technology | | | X | X | 2 ) | 2 |
| 23. Machine Tool Technology | | | X | | 1 ) | |
| 24. Machine Trades | | | | X | 1 ) | 2 |
| 25. Middle Management | | | X | | 1 | 1 |

VOCATIONAL-TECHNICAL PROGRAMS
OFFERED AT THE FOUR SCHOOLS
(SOURCE 1969-70 COURSE CATALOG OF EACH SCHOOL)

| Programs | El Rito | Roswell | Hobbs | TVI | Total No. of Programs | No. of Similar Programs |
|---|---|---|---|---|---|---|
| 26. Dental Assistant | | X | | | 1 | 7 |
| 27. Nurse Aide Training | X | | | | 1 | |
| 28. Nursing Assistant | | X | | | 1 | |
| 29. Associate Degree in Nursing | | X | | | 1 | |
| 30. Practical Nursing | | | X | X | 2 | |
| 31. Hospital Aides | | | | X | 1 | |
| 32. Technologies Preparatory | | | | X | 1 | 1 |
| 33. Welding | | X | X | X | 3 | 3 |
| Total | 10 | 9 | 9 | 13 | 41 | |

From the preceding chart it can be observed that the schools do duplicate one another's programs to a relatively minor degree. The greatest duplication occurs in the programs of drafting and welding; the evaluators do not consider these duplications wasteful because of the great distances which exist between the schools, because they are located in different job market areas, and because the enrollment in each program is fairly limited. As long as the schools are able to place the vast majority of their graduates in satisfactory jobs in the fields for which they are trained, the duplication need not be deemed wasteful. It should be realized that all programs listed with the same name in the previous chart do not necessarily prepare all students for the same occupations. Students can be prepared for several different related occupations by varying the subject units taught within each program to meet the needs of varying student interest.

Finances in the Four Schools. The total amount of money being received and spent by these four institutions is increasing due to growing local, State, regional and Federal support. Income and expenditures were budgeted for the four schools in 1968-69 for the following amounts:

| | | Income | Expenditures |
|---|---|---|---|
| 1. | Northern New Mexico Vocational-Technical School | $ 580,702 | $ 486,242 |
| 2. | Technical-Vocational Institute | 1,529,704 | 1,712,696 |
| 3. | Roswell Branch Community College | 640,000 | 655,600 |
| 4. | New Mexico Junior College | 1,110,561 | 952,200 |
| | | $ 3,960,967 | $ 3,828,738 |

During the current year total income for the four schools is expected to rise considerably. TVI's will increase considerably as a result of the local tax assessment ratio being doubled. With all schools, especially TVI, having an expenditure backlog, expenditures will probably rise correspondingly.

The critical, long-range financial factor of post-secondary education in New Mexico has been mentioned in other reports, and that is--when will the state of New Mexico be able to more fully fund post-secondary vocational education? In 1968-69, the Vocational Division reported that only $29,221 of the $521,288 contained in the State budget was from State sources. The other $492,067 was from the Federal Government.7)

The local contribution to the operational income of the post-secondary schools comes primarily from local tax levies and student fees. A total of $2,105,641 was budgeted as local income in New Mexico in 1968-69:

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7) "Vocational Education In New Mexico." Vocational Technical Division, State Department of Education. Santa Fe, New Mexico, November, 1969.

| | | |
|---|---|---|
| New Mexico Junior College | | |
| Local Tax Levy | $ 746,593 | |
| Student Fees | 168,944 | |
| | | $ 915,537 |
| Roswell Branch Community College | | |
| Local Tax Levy | 150,000 | |
| Student Fees | 51,000 | |
| | | 201,000 |
| Technical Vocational Institute | | |
| Local Tax Levy | 989,104 | |
| Student Fees | 0 | |
| | | 989,104 |
| Northern New Mexico Vocational-Technical School | | 0 |
| | | $2,105,641 |

Should there be any sizable reduction in the Federal post-secondary vocational funds allocated to New Mexico, it would severely damage the programs of these four schools. An examination of the sources of income of three of these four schools (TVI is not included) for 1968-69 reveals how Federal fund cuts would affect each school to varying degrees:

| Source of Income | Percent of Total Income<br>El Rito | <br>Roswell | <br>Hobbs |
|---|---|---|---|
| 1. Student Fees | 2.7 | 23.4 | 13.7 |
| 2. Local Tax Levy | 0 | * | 59.9 |
| 3. Land Perm. Fund and Endowment Income | 1.5 | 0 | 0 |
| 4. State Appropriations | 78.3 | 39.4 | 20.9 |
| 5. Federal Grants and Payments | 16.3 | 22.7 | 5.2 |
| 6. Miscellaneous | 1.5 | 14.5* | 2.1 |

* Approximately one-half of Roswell's "Miscellaneous" budget represents local tax levy income.

It is easy to see from the above table that Roswell, the school located in the most difficult economic situation, would suffer the most from a Federal cut-back. El Rito would be next, and Hobbs the least. (TVI's Federal income is expected to amount to approximately $250,000 in 1969-70, and thus, it too would be adversely affected by a heavy Federal reduction.)

The overall 1968-69 expenditure pattern of the four schools was reviewed using the latest available BEF budget analysis, (TVI's finances are reported by the Public School Finance Division in a different format and therefore was omitted from this chart):

| Item | Percent of Expenditures<br>El Rito | <br>Roswell | <br>Hobbs |
|---|---|---|---|
| 1. Administration | 17.3 | 13.0 | 18.4 |
| 2. Instruction | 54.4 | 53.1 | 56.7 |
| 3. Libraries | 1.8 | 5.5 | 10.0 |
| 4. Physical Plant Operation and Maintenance | 26.5 | 23.4 | 14.8 |

The three schools spend rather constant percentages of their total expenditures for instruction, (53.1 to 56.7%) but vary considerably in the percent of their other expenditures. The percent spent for administration at Roswell is the lowest (13.0%); a major contributing factor to this low figure is that the administration offices of Eastern New Mexico University, Roswell's parent institution, provides considerable administrative service without charge to the Roswell account. The lowest percentage of expenditures for libraries was at El Rito; this level of expenditure corresponds closely to the evaluation teams reaction that the El Rito library needs considerable improvement; since no other post-secondary level library exists within thirty miles of El Rito, and no vocational oriented library exists within over fifty miles, it seems obvious the expenditures will need to be increased if students are to have a good library at El Rito. It is logical that Roswell and Hobbs, having comprehensive junior college programs, would have to spend a considerably greater portion of their funds (5.5 and 10.0 percent respectively) than would El Rito; likewise, it is logical that Roswell, with access to the libraries of its parent institution, could devote a smaller proportion of its total expenditures to libraries than Hobbs. Small U. S. colleges with large campuses and old buildings often report that 20 to 30 percent of their expenditures go for plant care and service, and this is especially true when residential services are included. Hobbs naturally spends the least proportion of its expenditures for this item since it has no dormitories and a new plant.

Thus, it can be said that the use of money by these three schools seems to be within reasonable bounds with the one exception that El Rito needs to increase its library developmental expenditures. Because El Rito will have to soon open and operate a second library in it's Espanola Branch. the percentage of its total expenditures will have to rise sharply if students at both campuses are to be offered suitable media utilization opportunities. To keep this income in library expenditures as low as possible El Rito will need to closely examine the possibility of the two campuses sharing some books and other media on a rotational basis.

The overall expenditure patterns of TVI were examined seperately due to the fact that its finances are reported in a different format. Expenditures seemed to be following a reasonable pattern. Like the other three schools income has been considerably below what could have profitably been used. But TVI's situation will rapidly improve as a result of the rise in the assessment rate from 16-1/2 to 33-1/2 percent this year. It's total income was $2,000,640.47 in 1967-68, it is expected to increase to $3,374,000.00 during the current 1969-70 year.

General Summary Data. The chart which follows is a summary of much of the data previously presented on a school-by-school or a problem-by-problem basis. The chart gives an overview of the four schools. A few items contained in the chart are new to the report and will be commented on briefly:

- The schools are nicely distributed throughout the central and eastern part of the State.
- The enrollment districts of all except El Rito are limited to a single, or at the most several public school districts (maximum of 5); students who live outside of the college district may enroll in any of the schools. El Rito's formal enrollment district is the State.

- All of the schools appear to own ample land, although TVI, the largest school owns the smallest amount of property.
- All of the schools have well-established facilities, and yet all plants have problems; TVI needs to replace old buildings with new ones and to expand it's programs and student capacity. Roswell needs to convert military buildings into conducive educational environments; Hobbs needs to develop residential quarters and El Rito needs to improve it's present facilities and get the Espanola Branch constructed, equipped and into operation.
- Compared to the other schools, Roswell has a very low local tax base, a low millage levy and low unit student costs.
- The operational cost per student is expected to vary approximately 100 percent between the low and the high of the four schools in 1969-70. All per student unit costs are considerably above secondary school unit costs; some are close to college and university costs.

## A GENERAL SUMMARY OF COMPARATIVE DATA OF THE FOUR POST-SECONDARY SCHOOLS EVALUATED IN THIS STUDY

| Item | 1 Northern New Mexico State Tech.-Voc. School | 2 New Mexico Junior College | 3 Roswell Branch Community College | 4 Technical-Vocational Institute |
|---|---|---|---|---|
| 1. Location | North Central N.M.; El Rito, Rio Arriba County | Southwestern N.M.; Hobbs Lea County | So. Cent'l N.M. Roswell Chavez County | Cent'l N.M.; Albuquerque, Bernalillo County |
| 2. Economy of Service Area | Tourism, farming and ranching | Oil and gas production. Farming and ranching | Tourism. Farming & ranching. Trade center | Trade and industries, Tourism. Metropolitan services. |
| 3. Type of District | Organized as State school under Consitution. | Public Jr. College Dist. Composed of school disttricts: Eunice, Hobbs, Lovington & Tatum. | Jr. Comm. Coll. of ENMU composed of the 5 Chavez County School Districts. | Pub. School providing post-high school tech.-voc. educ. Albuq. area. |
| 4. Year Designated as Area Vocational School | 1965 | 1965 | 1968 | 1965 |

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| Item | 1<br>Northern New Mexico State Tech.-Voc. School | 2<br>New Mexico Junior College | 3<br>Roswell Branch Community College | 4<br>Technical-Vocational Institute |
|---|---|---|---|---|
| 5. Size of District | Serves primarily the north counties; also state-wide | 3600 sq. miles | 5 Chavez County sch. districts. serves as Br. Coll. Dist. | Bernalillo County, plus Corrales, Sandoval County. |
| 6. Amount of property owned (Acres) | 105 | 278 | 234.5 | 35 |
| 7. Size of Campus (Acres) | 79 | 50 | 234.5 | 7 |
| 8. Number of Buildings | 13 | 11 | 65 | 16 |
| 9. Floor Space in Buildings (Square feet) | 152,130 | 160,000 | 375,419 | 102,764 |
| 10. Value of Campus | $3,500,000 | $5,000,000 | $3,483,800 | $1,541,460 |
| 11. Net Assessed Valuation of District | N/A | $237,330,944 | $80,000,000 | $604,000,000 |
| 12. Present Tax Rate (Mills) | N/A | 3 mills | 1 mill | 3 mills |

| Item | 1<br>Northern New Mexico State Tech.-Voc. School | 2<br>New Mexico Junior College | 3<br>Roswell Branch Community College | 4<br>Technical-Vocational Institute |
|---|---|---|---|---|
| 13. Financial Support | State appropriations. Tuition and fees. Federal funds. Misc. | Local tax levy. state appropriations. Tuition & fees. Federal funds. Misc. | Local tax levy. State appropriations. Tuition & fees. Federal funds. Misc. | Local tax levy. State appropriations. Tuition & fees. Federal funds. Misc. |
| 14. Resident Tuition per Student (Excluding fees) | $27 Per Semester | $13 Per Credit Hr.' max. $130 per semester. | $5 per credit hr.; max. $60 per semester. | - 0 - |
| 15. Operational Cost per Student | | | | |
| 1968-1969 (Actual) | $1,482.28 | $1,094 | $895.79 | $ 989 |
| 1969-1970 (Estimated) | $1,805.01 | $1,350 | 878.75 | 1,072 |
| 16. a) Number of Students (FTE) | 231 | 800 | Acad. 918 | 1,900 |
| b) Voc-Tech. Stud. (FTE) | 231 | 180 | Voc.-Tech. 290 | 1,900 |
| 17. Student-Faculty Ratio | 1 to 15.4 | 1 to 18 | 1 to 19.5 | Not Available |
| 18. Date Established | 1909 | 1966 | 1958 | 1965 |

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N/A = Not Applicable
FTE = Full-Time Equivalent

# CHAPTER V

# STATEWIDE RECOMMENDATIONS

The last chapter of this report contained data about each of the four post-secondary schools evaluated in this study. This report concludes with a series of recommendations concerning future statewide, post-secondary school operations for consideration by the Advisory Council.

Recommendation No. 1: Continue to Operate the Four Post-Secondary Area Vocational Schools at El Rito, Albuquerque, Roswell, and Hobbs. Each of these schools is playing a valuable role in the development of the statewide program. Each seems to be attuned to the young people of its area, and their programs are correspondingly increasing in scope. Each of the four schools has a well established plant, faculty and administration. Their rate of success in job placement is very high. Their results conclusively demonstrates that there is a need in New Mexico for a continued and an expanded thrust in the post-secondary vocational-technical education field.

The reasons for this are quite obvious. First, post-secondary vocational education is a key method for equipping New Mexico's non-college graduates with employable skills. This is of major importance since 54 percent of all 1968-69 high school graduates in the State did not even plan to attend college. To further illustrate this point, only 9,096 of the 16,501 high school graduates in 1968-69 indicated that they planned to attend college in the fall of 1969. Also, according to the Annual Statistical Report of the Superintendent of Public Instruction, 25 percent of the 9th grade enrollment of 1964-65 did not graduate from high school in 1968-69. Grade and high school enrollments are expected to increase steadily in the foreseeable future, which will further compound the problem of having a large, non-trained population competing for jobs in the labor market. To increase the holding power of the high schools and to make college more attractive and accessible to more students are partial answers to the problem. To provide more opportunities for vocational-technical training at all levels is also a must to provide the alternatives necessary to educate the population to become employable and productive members of society. Secondly, an adequately, vocationallyskilled population is a major asset for impeding economic decline, for conserving the State's economic resources and for attracting business firms that vitalize the New Mexico economy. Post-secondary vocational-technical education is certainly one of the few proven techniques which the State can use to reverse the recent downward economic trends.

In the previous chapter it was pointed out that each of the four schools do have some problems. The most significant was low enrollments in three of the schools. It is believed that significant population, geographic and mobility factors contributed significantly to this problem, and that they can, with the help of the State, be overcome. It's quite easy to understand why a young man who finds that the program at El Rito doesn't match any of his interests has difficulty coming out of a poverty-level income home and trying to go to school in Roswell or Hobbs, since they are about as far from his home as Portland, Maine; Norfolk, Virginia, and Pittsburgh, Pennsylvania are from New York City.

This reasoning does not mean to imply that there are not some developmental problems existing in the schools. These were pointed out in the last chapter, but the problems are not serious enough to support closing any of the schools.

Rather they are points in the structure requiring strengthening. The most important weakness at the present relates to low vocational student enrollments at three of the schools and the fact that many of the State's unemployed are young people.[1] This leads to the second recommendation.

> Recommendation No. 2: Expand Efforts to Attract More Post-Secondary Vocational Students Into The Statewide Program. Statistics reveal that many unemployable youths and adults reside in New Mexico. For a variety of unknown sociological, economical and attitudinal reasons, people do not know about, believe in, or otherwise do not find adequate reason for enrolling in one of New Mexico's post-secondary vocational schools.

Student recruitment programs need to be more vigorously pursued. The unemployable and the unemployed both need to be further stimulated into joining this post-secondary vocational learning movement. Neither the unemployable nor the unemployed can be considered an asset to the State as long as the State must contribute a major share to their livelihood.

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[1] Forty percent of those applying for unemployment compensation in New Mexico last year were under the age of 22.

The underemployed-underdeveloped must also be considered. Because they are not fully developed, the State not only has to employ out-of-staters with the higher level of skills, but the underachiever also occupies a job to which the less educatable aspires.

Vocational training and retraining has much potential for the State and its people. Making a determined effort to further acquaint young people, the unemployed, and the underemployed with post-secondary opportunities should prove to be well worth the expense and effort. At the very least, enrollments should be expanded to the maximum that existing and soon-to-be-built facilities will house. And to the extent that additional programs can be funded, post-secondary vocational education ought to be available to all young adults who do not choose to go to other schools or colleges or into a job.

The Nation, nor any of its states, can no longer afford to force students up the collegiate academic ladder, at greatly increasing costs, to have only 10 percent of the young people who start high school actually finish college. An alternate educational path, one which also leads to gainful employment, needs to be made available to the many youths who do not attend or graduate from college. Post-secondary vocational education is the primary, alternate path.

One of the major ways by which enrollments can be increased is the modernization of course and program offerings. The bulk of the programs which were initially developed in the four relatively new schools might be classified as basic vocational programs. To attract more of those able students who might otherwise choose to leave the State and study elsewhere and the seemingly disinterested students, as well as to safeguard the long-term continuation of Federal government funded activities within the State, it is believed that a number of advanced technical programs should be established. These programs should relate to the occupational trends pointed out earlier by Professor Boyle. New programs are needed that more closely relate to the services economy concept, and especially to the needs of government activity, health and education, and selective industrial requirements. These programs can be expected to be costly and to have limited enrollments. In addition, a number of new, modern social service vocational education programs are needed. Such programs would develop persons to fill new types of health occupations, educational aide positions, police and security service positions, middle management jobs, environmental conditioning positions and photographic service jobs.

Many new students can be attracted to the program by rather simple and well-known recruitment methods, e.g., school visitations, guidance counselor conferences, and mass media advertising via television, radio, and newspaper and newsletters. To effect an active and continuing recruitment program will require the expenditure of additional funds. This would be a good area for the State to add to its financial share of the post-secondary program since it and not the Federal government would be the prime benefactor of any success.

> Recommendation No. 3: Improve and Expand Support Units of the Statewide Post-secondary Education Program. As enrollments and programs increase quantitatively and qualitatively, the State Advisory Council should encourage balanced growth in necessary support activities.

Guidance, recruitment, placement, research, and administration are the five supporting services most seriously required. Each of these support programs is now functioning in what will be looked back upon a decade hence as various stages of infancy. Before long term patterns congeal, it would be wise to carefully and intelligently plan and support their long term development. The relationship of each supporting service to the total program requires further definition if appropriate financial support is to be secured to cover the cost of staffing and other expenses. This evaluation study clearly reveals the need for furthering the development of all of these support services, and especially recruitment, placement, guidance, and research.

Recommendation No. 4: Increase Financial Support. To the degree that the State cannot secure sufficient local and national funding, the State will need to find money for improving and expanding the State's post-secondary vocational education program. Some of the increased financial support will be needed annually just to maintain the scope of the present program (inflation, salary adjustments, program refinement costs, and other natural causes can be expected to automatically increase annual dollar outlay requirements). Other budgetary needs are 1) a small amount of money annually for recruiting new students, 2) a larger amount annually for the operational cost of an expanded student body, 3) large amounts sporadically to cover the costs of adding new programs and faculty, facilities, and other related items, 4) a large amount annually for student aid, and 5) a large amount for periodic equipment replacement. Approximations of the costs and proposals related to implementing such items must necessarily be developed by the Vocational Division before final determination can be accomplished, but meaningful discussions should be started soon. Several of the items are costly and some are controversial, and long-range planning is needed to best assure the making of wise, programmed monetary decisions.

The need for new and expanded post-secondary vocational programs in the State of New Mexico has been established, and thus the degree to which additional programs can be funded needs to be further developed with due consideration to the seriousness of potential social and economic problems which might be avoided if such programs are instituted.

Recommendation No. 5: Consider Redeveloping the Statewide Vocational-Technical Education System in New Mexico. The original vocational system was quickly and greatly expanded during the last few years in response to critical, economic and educational problems and to the potential influx of Federal funds. The enlarged system has been quite successful in developing new plants, beginning new programs and attracting a growing student body, but several improvements might be made to enchance statewide opportunity for greater success. The following changes appear to be required:

a) One of the new developments relates to defining the role which vocational-technical education should play throughout the total school system, beginning at the kindergarten level and continuing throughout college. The content of course material and the attitudes displayed by teachers as well as the guidance given by counselors can have much to do with the attitudes which the children will develop and carry into adult life. Occupational goals, work patterns, economic objectives and other attitudinal concerns need to be introduced in the early school years and reinforced and refined throughout all years of schooling.

b) Carefully defining the role that vocational technical education should play in the secondary high school as compared to the function which it should serve in the post-secondary school should assist considerably in reducing the overlapping of vocational courses, while reducing the high school dropout rate markedly.

c) Consideration should be given to the degree and the fields in which each post-secondary area vocational-technical school should specialize.

It seems quite obvious that until enrollment exceeds at least a thousand (FTE) in each school that the State should first develop a rather basic course sequence that is common to all of the schools, and secondly, specialized programs that are peculiar to only one or two of the schools.

d) Some reorganization at the State level would also be helpful in simplifying the administration, coordination and continued development of the post-secondary vocational-technical education program. This will be a difficult undertaking but should prove very helpful in reducing tension among the schools and in developing unified support for the funding and development of the schools. A major implication is more complete public funding and another is the potential of close organizational relationships with the public schools and universities of the State.

e) A major question is how these schools might be reorganized or redistributed to make it possible for all young adults of the State of New Mexico to have equal opportunity for attending one of the schools. This, of course, means that the State should give some consideration to providing student financial aid to cover the costs of lodging, meals and transportation of students who live in more remote areas so that they may become residential students at one of the existing schools. Whether or not this would prove more economical than developing additional schools will, of course, have to be calculated. It would be a good intermediate way to have the housing facilities at El Rito and Roswell utilized more completely.

Recommendation No. 6: Continue to Evaluate the Post-Secondary Vocational Programs. An annual evaluation is especially needed during the initial years of the development of this post-secondary program. To bring to the State and to the programs new insights the parties involved in the evaluation should vary from year to year, and persons with a wide range of experiences and interests should continue to serve on each evaluation team.

A program of continuous research by the Vocational Division is essential to ultimate, maximum success of the statewide vocational program. The efforts of the Division's relatively new Research Coordinating Unit (RCU) should continue to receive both guidance and support. The results of much of the RCU's research activity should build an evaluative framework which will give both daily and long-range direction to the emerging statewide program.

The purposes of such evaluation programs are many and include examining the effectiveness with which funds are spent, programs are devised, and youths and the State are assisted. Student follow-up studies need to be continued and expanded as one of the Division's most valuable evaluation tools.

## CONCLUSION

This study, as many before it, restates the need for an economic reversal in the State of New Mexico. It also reveals that one of the successful steps being taken, in an attempt to attain an economic reversal, is the development of a public-supported, post-secondary, vocational-technical education program. Although the degree of success attained in this program to date is relatively small in terms of the total work force, as well as in terms of its long range potential, it has been a dicidedly positive and constantly growing force. The most major strengths of the program are considered to be, 1) the involvement of private enterprise and public agencies in professional and technical workshops and conferences for teachers and counselors, 2) the existence of a Master Plan for Vocational Education, and 3) a highly interested Advisory Council for Vocational Education.

By continuing to increase its leadership and administration of post-secondary vocational education programs, the State of New Mexico will certainly impede economic decline and have a valuable asset with which to attract new businesses to the State.

Improving the economic lot of the State is, of course, not the only reason for further expanding and improving post-secondary, vocational-technical education schools. The State and its citizens also have a social responsibility, the development of a balanced educational environment for all citizens of the State. It has not yet been proven that the learning which takes place at any one age is any more important than the learning which takes place at another age. With the New Mexico post-secondary vocational-technical schools placing over 90% of their graduates in jobs, it is obvious that the learning being experienced in these schools is proving to be exceedingly valuable. Examining high school and college enrollments, unemployment rolls and the educational requirements of the services andthe technology fields makes it extremely clear that the State and its citizens will continue to benefit as the State expands and improves its post-secondary, vocational-technical educational system.

# APPENDIX "A"

## NEW MEXICO STATE ADVISORY COUNCIL FOR VOCATIONAL EDUCATION

### EXECUTIVE BOARD

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The Bureau of Educational Planning and Development helps to plan and improve education. It contracts with public and private organizations to analyze educational problems and to design and develop feasible solutions. Activities of the Bureau include working with school systems; colleges and universities; local, state and national educational agencies; industry, private planning and consulting firms; and overseas missions and governments.

In addition to being of service to the nation's educational endeavors, the Bureau of Educational Planning and Development seeks to provide selected field service and research experiences beneficial to the development of graduate students and to the interests of faculty members of the University of New Mexico.

The Bureau encourages the development of both proven and innovative planning concepts in organizational planning, curriculum and facility planning, administrative planning, teacher training and financial planning.

The activities of the Bureau of Educational Planning and Development may be supported by gifts and grants.